

16091-14754A
16092

CS: 16091

Is 16091-14754A, Pts 1&2,

I 75-5(37)302

14.5 mi of guard rail
upgrading, culvert ext
& sign upgrading & railing
replac & bridge deck
overlay on 9 brdge on
I-75 fr M-68 N'ly to
Levering Rd. Cheboygan
Co. Item 32.

ID: 14754A

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION

ROUTE	JOB NUMBER	FEDERAL NUMBER	ROUTE	JOB NUMBER	FEDERAL NUMBER	SHEET NO.	TOTAL SHEETS
I-75	14754A	I-75-5(37)302	I			1	20

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS 1976 STANDARD SPECIFICATIONS AND SUPPLEMENTAL SPECIFICATIONS

ROAD PLANS	SHEET NO'S.
TITLE	1
NOTE SHEET	2
PLANS & PROFILES	3-15
SPECIAL DETAILS	16-19
QUANTITY SHEETS	20

PLANS OF PROPOSED

MICHIGAN PROJECT I-75-5(37)302
CONTROL SECTION Is 16091 & Is 16092

JOB NUMBER 14754A

I-75

CHEBOYGAN COUNTY

HEBRON, MUNRO, BURT, TUSCARORA & KOEHLER TWPS.

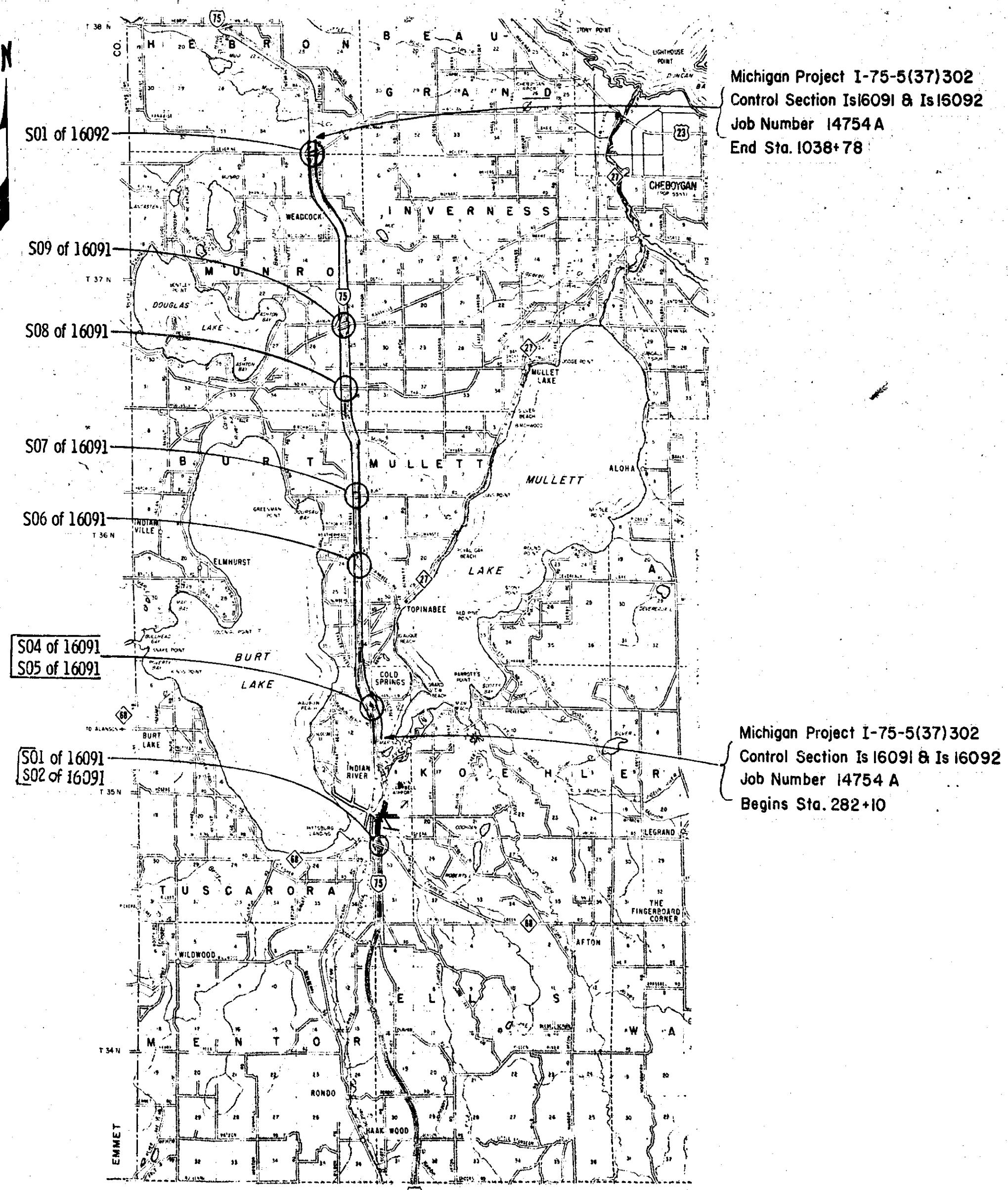
LEGEND YEAR

A.D.T. 1977, 5300

D.H.V.

COMM. X

DESIGN SPEED



15-81

CONTRACT FOR SIGN UPGRADE, GUARD RAIL UPGRADING, BRIDGE RAILING REPLACEMENT & CULVERT EXTENSION			
APPROVALS			
CHECKED	<i>C.J. Zajice</i>	4/4/79	ENGINEER, ROAD DESIGN
RECOMMENDED FOR APPROVAL	<i>M. Task Ataman</i>	4/4/79	ENGINEER OF DESIGN
RECOMMENDED FOR APPROVAL	<i>R.C. Bushnell</i>	4/6/79	ENGINEER OF TRAFFIC & SAFETY
RECOMMENDED FOR APPROVAL	<i>R.C. Chapman</i>	4/10/79	ENGINEER OF CONSTRUCTION
DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION			
JOHN P. WOODFORD - DIRECTOR			
APPROVED BY	<i>John P. Woodford</i>	4/19/79	JOHN P. WOODFORD - DIRECTOR
PLANS PREPARED BY	U. S. DEPARTMENT OF TRANSPORTATION	4/19/79	
WONG	FEDERAL HIGHWAY ADMINISTRATION	4/19/79	
DESIGN UNIT	APPROVED	4/19/79	4/19/79
DIVISION ADMINISTRATION DATE			
CONTROL SECTION	JOB NUMBER	FEDERAL NUMBERS	SHEET NO.
Is 16091 & 16092	14754A	I-75-5(37)302	92305

Is 16091 & Is 16092 - 14754A

CONTROL SECTION - JOB NUMBER

TITLE SHEET LEGEND

PROPOSED PROJECT	
EXISTING ROADS	
PAVED	
BITUMINOUS	
GRAVEL	
UNIMPROVED OR CITY STREET	
SECTION LINE	
TOWNSHIP LINE	
COUNTY LINE	
CITY OR VILLAGE LIMITS	
RAILROADS	

NOTE SHEET

F.H.W.A. REG. NO.	STATE 5 MICH.	FEDERAL PROJECT I-75 CHEBOYGAN	R.O.W. JOB NO. 14754A	sheet NO. 2	TOTAL SHEETS 1
ROUTE	COUNTY	CONTROL SECTION	JOB NO.		
I-75	CHEBOYGAN	IS 16091 & IS 16092	14754A		

GENERAL PLAN NOTES

UNDERGROUND UTILITIES

For protection of underground utilities, the contractor shall dial 1-800-482-7171 a minimum of 48 hours prior to excavating in the vicinity of utility lines. All "Miss Dig" participating members will thus be routinely notified. This does not relieve the contractor of the responsibility of notifying utility owners who may not be a part of the "Miss Dig" alert system.

CLASS B SODDING

Where Class B Sodding is called for in the plans, the beds shall be trimmed within the tolerances specified for Class A Slopes.

BEDDING AND FILLING

Bedding and filling around pipe culverts shall be done as specified on Standard Plan IV-82 Series.

References to "possible borrow sources" appear at various locations on these plans. These references are for the contractor's information only. No payment for earth excavation or hauling will be made for grading work at these locations. If the contractor chooses to use these areas to acquire dirt for use as embankment, the disturbed slopes shall be seeded, fertilized, and mulched at the direction of the engineer, and payment for these items will be made at the contract unit price.

Guard Rail

Prior to the contractor's ordering of curved beam guard rail elements, the engineer shall verify in the field that the radii shown on the plans are satisfactory.

Where existing guard rail is to be eliminated, it shall not be removed until the slope has been flattened as called for on plans or approved by the engineer.

Salvaged Beam Gd. Rail shall be stockpiled at a location designated by the engineer and shall be the property of the Department.

MISCELLANEOUS ESTIMATES

The following items of work shall be done as they apply throughout the project. These items are not detailed or included on the plan and profile sheets:

Topsoil Surface 3 Inches	26,190 S.Y.
Mulch (Slopes as directed by the Engineer) (Est. @ 3.0 Tons/Acre)	16 Tons
Anchoring Mulch	5 Acre
Cereal Rye Seeding	324 Lbs.
Roadside Seeding	540 Lbs.
Chemical Fertilizer Nutrient	1296 Lbs.
Mobilization	1 L.S.
Class B Sodding	5859 S.Y.
Water	15 Units
On-the-Job Training	2 Each

Erosion and Sedimentation Control Quantities:

Hay or Straw Bales	100 Each
Cereal Rye Seeding	120 Lbs.
Mulch (Est. @ 3.0 Tons/Acre)	6 Tons
Anchoring Mulch	2 Acre
Temporary Fence (Used to anchor Bales)	200 LFt.

Items of Work to be used for Maintaining Traffic during construction are included in Bridge Plans.

PUBLIC UTILITIES

The existing utilities listed below and shown on these plans represent the best information available as obtained from our Utility Section on October 24, 1978. This information does not relieve the contractor of the responsibility to satisfy himself as to their accuracy or of his responsibility in case utilities have been changed since the above date.

NAME AND ADDRESS OF OWNER	KIND OF UTILITY
Michigan Bell Telephone Co.	Telephone
Consumers Power Co.	Electric
Consumers Power Co.	Gas

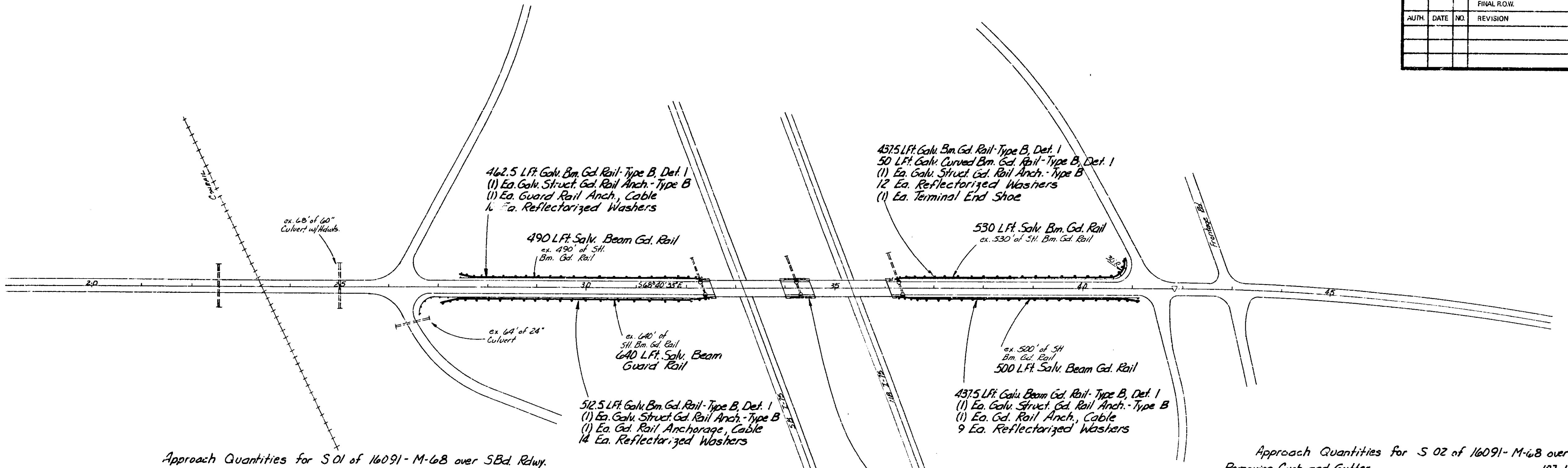
Owners of public utilities will not be required by the Department to move additional poles and structures that are not within grading or structure limits in order to facilitate the operation of construction equipment, unless it is determined by the engineer that such pole line or structures constitute a hazard to the public or are extraordinarily dangerous to the Contractor's operations.

NOTES APPLYING TO STANDARD PLANS

Where the following items are called for on plans, they are to be constructed according to standard plan given below opposite each item unless otherwise indicated.

Catch Basins and Inlets	I-5C
Cover E	I-10A
Buffered End (For Beam Guard Rail)	III-57A *(See Exception)
Guard Rail Ending with Cable Anchorage	III-58D
Guard Rail at Structures	III-59C
Beam Guard Rail - Types A, B, and C	III-60C *(See Exception)
Structure Guard Rail Anchorage (Type B)	III-68B
Granular Blanket, Underdrains, & 6" Culvert End Section	IV-80A
Bedding and Filling around Pipe Culverts	IV-82D
Outlet Headwalls, Concrete Rings, Drainage Marker, Mailbox & Wood Guard Posts	IV-85C
Precast Concrete End Section for Pipe Culvert	IV-86A (Except the Concrete Shall Have Air Entrained Content of 6 ± 2 Percent)
Steel End Section	IV-88A
*(Exception)	Buffered Ends, Curved Beam Elements, Terminal End Shoes, and Special End Shoes will be same Material as adjacent Run of Guard Rail.
Soil Erosion & Sedimentation Control Measures	V-96B
Sodding	VI-100A
Special Details not listed under Standard Plans	SPECIAL DETAIL
Steel Grate for Precast Concrete End Section	4
Fillerwalls between Existing Bridge Piers	5
Structure Guard Rail Anchorage (Type A)	Special Detail 7-1

FINAL R.O.W.			
AUTH.	DATE	NO.	REVISION



Approach Quantities for S01 of 16091 - M-68 over SBd. Rdwy.		
Removing Curb and Gutter	107	LFT.
Bridge Approach Curb and Gutter (Modif.)	16	LFT.
Bridge Approach Curb and Gutter - Conduit Type	15	LFT.
Aggregate Base - Bituminous (9" in place)	5	Syd.
Drainage Structure Covers	1820	Lb.
Adjusting Drain. Structure Covers	4	EA.
Concrete Barrier - Special	59	LFT.

Approach Quantities for S 02 of 16091- M-68 over NBd.	
Removing Curb and Gutter	107 LFT.
Bridge Approach Curb and Gutter (Modif.)	15 LFT.
Bridge Approach Curb and Gutter - Conduit Type	15 LFT.
Aggregate Base - Bituminous (9" in place)	5 SYD.
Drainage Structure Covers	910 Lb.
Adjusting Drainage Structure Covers	2 Ea.
Concrete Barrier - Special	59 LFT.

For Information On
Cover D (P)

M-68

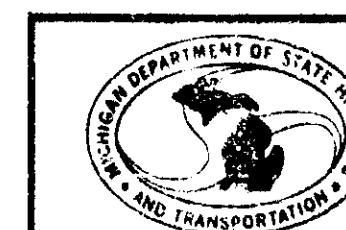
Filler Wall Quantities						
Structure Number	Crossroad	Number of Bays	Width of Bay	Filler Wall Conc. - Grade 35	Steel Reinforcement	3/4" Expansion Anch. Bolts
S04 of 16091	US-27	5	9'-4"	13.0	691	80
S05 of 16091	US-27	5	9'-5"	13.1	695	80
S06 of 16091	Topinabee Rd.	4	7'-7 ³ / ₄ "	8.5	422	64
S07 of 16091	Miami Beach Rd.	2	9'-6"	5.3	279	32
S08 of 16091	Indian Trail Rd.	2	9'-6 ³ / ₄ "	5.3	279	32
S09 of 16091	Riggsville Rd.	2	10'-4 ¹ / ₂ "	5.7	293	32
TOTALS				51 Cu.Yds.	2659 Lbs.	320 Each

Entire Project Organization

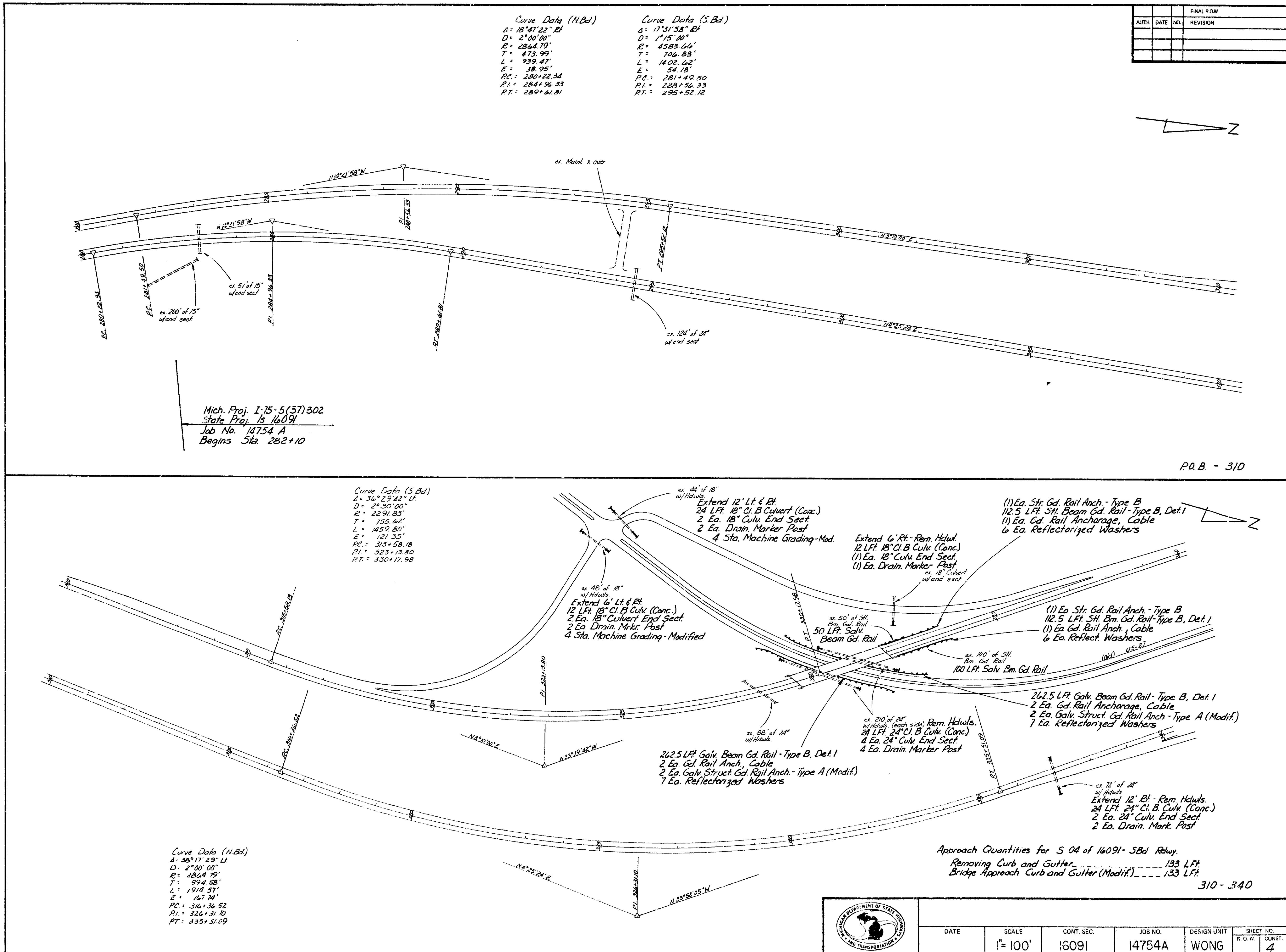
For restoration of slopes at locations of culvert extensions and maintain x-power

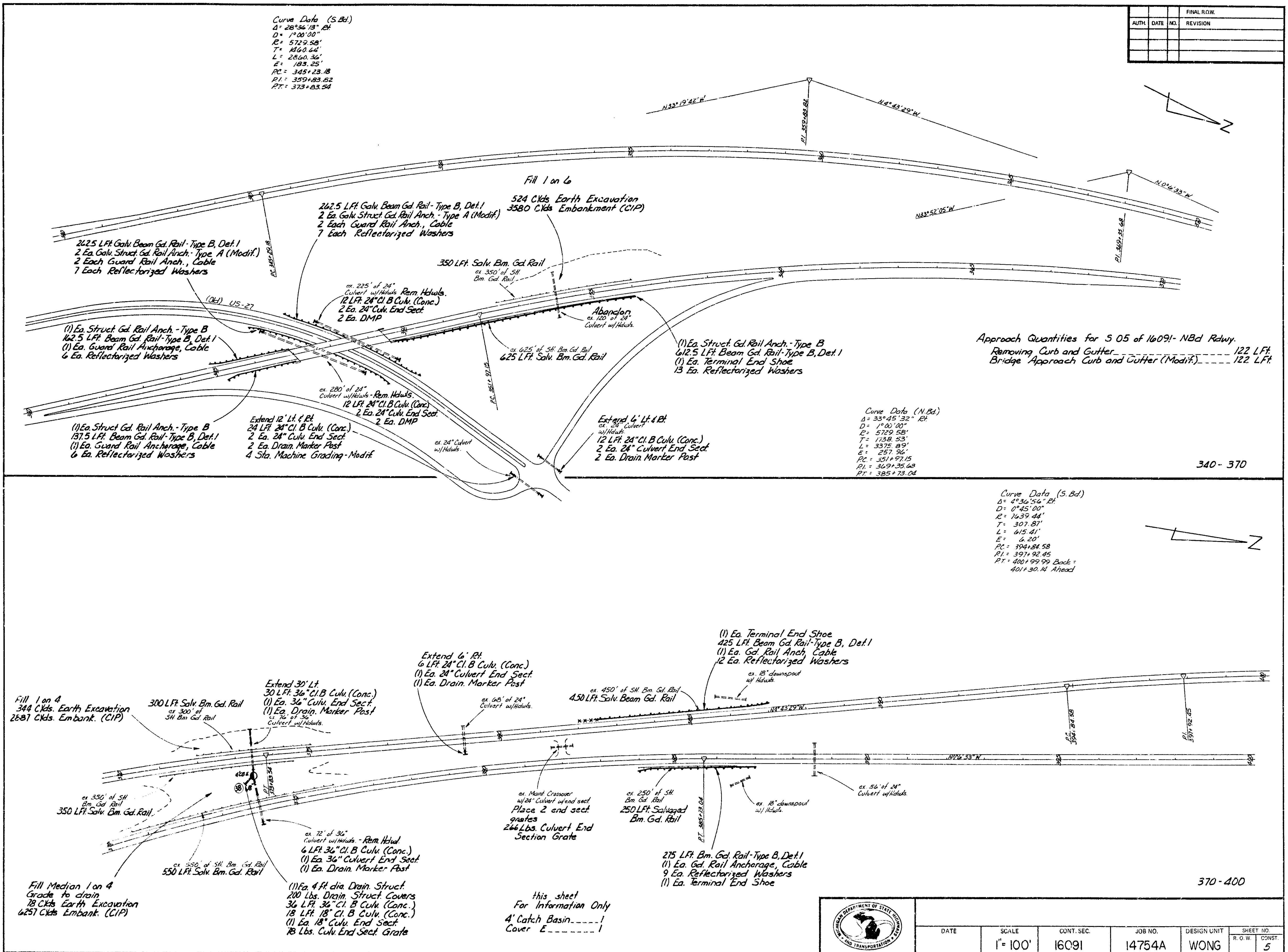
Embankment (CIP)	5049 CYds.
Topsoil Surface - 3"	23,100 SKds.
Mulch	15 Tons
Anchoring Mulch	5 Acres
Cereal Rye Seeding	286 Lbs.
Roadside Seeding	477 Lbs.
Chemical Fertilizer Nutrient	1065 Lbs.

③ indicates soil erosion & sedimentation control measure. See Standard Plan V. 96 B. Use snow fence for added stability.



							
	DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
	1" = 100'	16091 16092	14754A	WONG	R.O.W.	CONST.	3





FINAL R.O.W.		
AUTH.	DATE	NO. REVISION

Z

Extend 12' Et
12 Lft. 36" Cl. B Culvert (Conc.)
(1) Eo. 36" Culv. End Sect.
(1) Eo. Drain. Marker Post
ex. 38' of 36"
Culvert w/Hdwls.

NO 6-33'W.

ex. 72' of 36"
Culvert w/Hdwls.
Extend 6' Lt. & Rt. (Rem. Hdwls.)
24 Lft. 36" Cl. B Culv. (Conc.)
2 Eo. 36" Culv. End Sect.
2 Eo. Drain. Marker Post

460-490

Z

PL 200.00

PL 183.50
PL 193.33.35

PL 183.50
PL 193.33.35

ex. 80' of 18"
Culvert w/Hdwls. Rem. Med. Hdwls.
Extend 12' Et
18 Lft. 18" Cl. B Culv. (Conc.)
2 Eo. 18" Culv. End Sect.
2 Eo. Drain. Marker Post

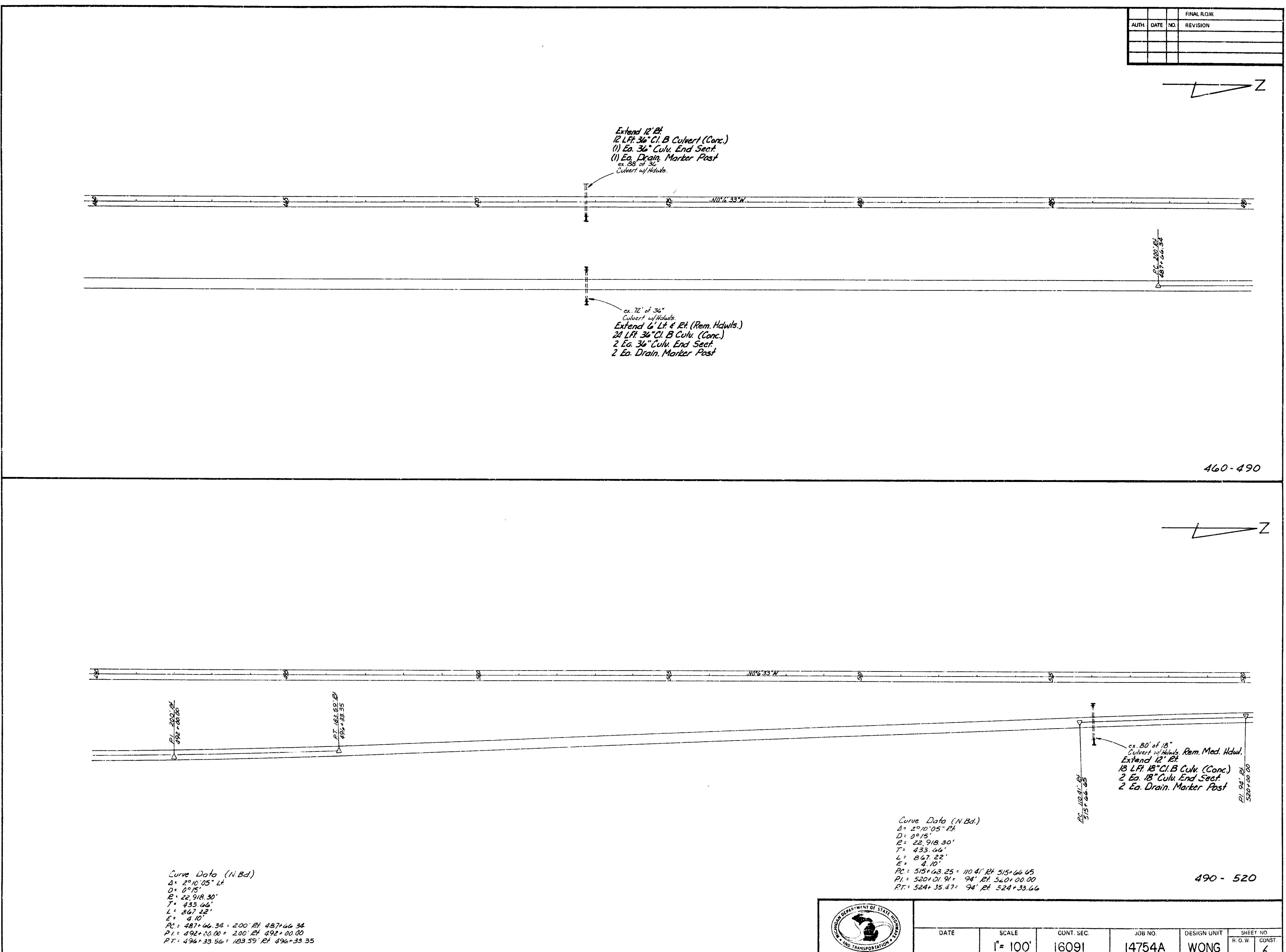
PL 94.20.00

Curve Data (N.Bd.)
A = 59' 10' 05" PL
D = 09' 15'
R = 22.918.30'
T = 433.66'
L = 867.22'
E = 4.10'
PL = 515+03.25 = 110.41' PL 515+64.65
PL = 520+01.97 = 94' PL 520+00.00
PL = 524+35.47 = 94' PL 524+33.35

490-520



DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHFT NO.
1' = 100'	16091	14754A	WONG	H. O. W.	6



FINAL R.O.W.			
DATE	NO.	REVISION	

900 L.Ft. Galv. Beam Gd. Rail - Type B, Det.
(1) Ea. Gd. Rail Anch., Cable
(1) Ea. Galv. Struct. Gd. Rail Anch. - Type B
22 Ea. Reflectorized Washers

800 L.Ft. Galv. Beam Gd. Rail - Type B, Det. 1
(1) Ea. Gd. Rail Anchorage, Cable
(1) Ea. Galv. Struct. Gd. Rail Anch. - Type B
17 Ea. Reflectarized Washers

Rem. Hdws. (1t.)
Extend 12' R4. 30' Lt; Place CB & stv
48 Lft. 24" Cl. B Culvert (Conc.)
12 Lft. 12" Cl. B Culvert (Conc.)
(1) Ea. 4 ft. dia. Drainage Structure
200 Lbs. Drain. Struct. Covers
(1) Ea. 12" Culv. End Sect.
2 Ea. 24" Culv. End Sect.
2 Ea. Drain. Marker Post

941 LFT. Salv. Beam Gd. Rail
ex. 941' of SH. Bn. Gd. Rail

Remove (Incl.)

Extend 12' Lt.
12 LFT. 24" Cl. B Culv. (Cav.)
(1) Ea. 24" Culv. End Sect.

ex. 12" downspout
w/ outlet Adust.

ex. 341' of SH. Bm. Gd. Rail
341 LFT Solv. Beam Gd. Rail

ex. 560' of SH. Bm. Gd. Rail
560 LFT. Solv. Beam
Gd. Rail

525 LFT. Gd. Bm. Gd. Rail-Type B, D
(1) Ea. Guard Rail Anchorage, Cav
(1) Ea. Gd. Struct. Gd. Rail Anch. - Typo
15 Ea. Reflectorized Washers

P.T. 24. 81
5/24 + 33. 66

300 L.Ft. Galv. Beam Gal Rail - Type B, Det. 1
(1) Ea. Gal. Rail Anchorage, Cable
(1) Ea. Galv. Struct. Gal. Rail Anch. - Type B
1 Ea. Reflectorized Washers

Sta. 48+92.56 Topinabee Rd. =
Sta. 524+85.00 SBd I-75

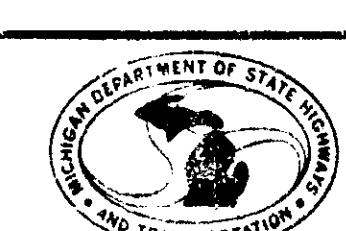
Approach Quantities for S06 of 16091 - Tapinabee Rd.	
Removing Curb and Gutter	157 LF
Bridge Apr. Curb and Gutter (Modif.)	68 LF
Bridge Apr. Curb and Gutter - Conduit Type	68 LF
Aggr. Base - Bitum. (9" in place)	3 SK
Drainage Structure Covers	1820 lb

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For Information Only

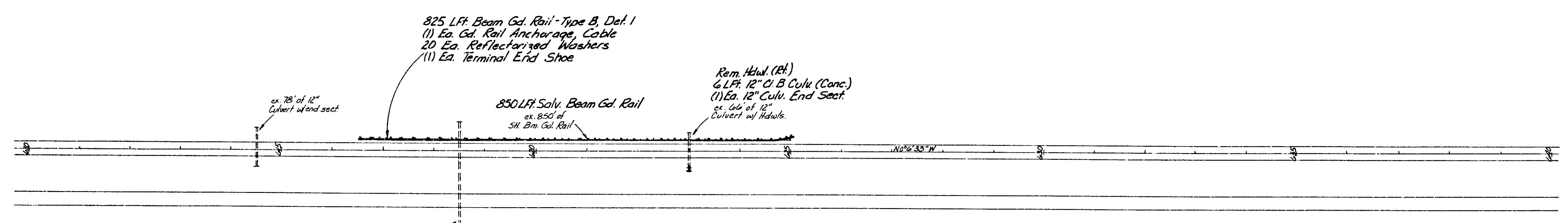
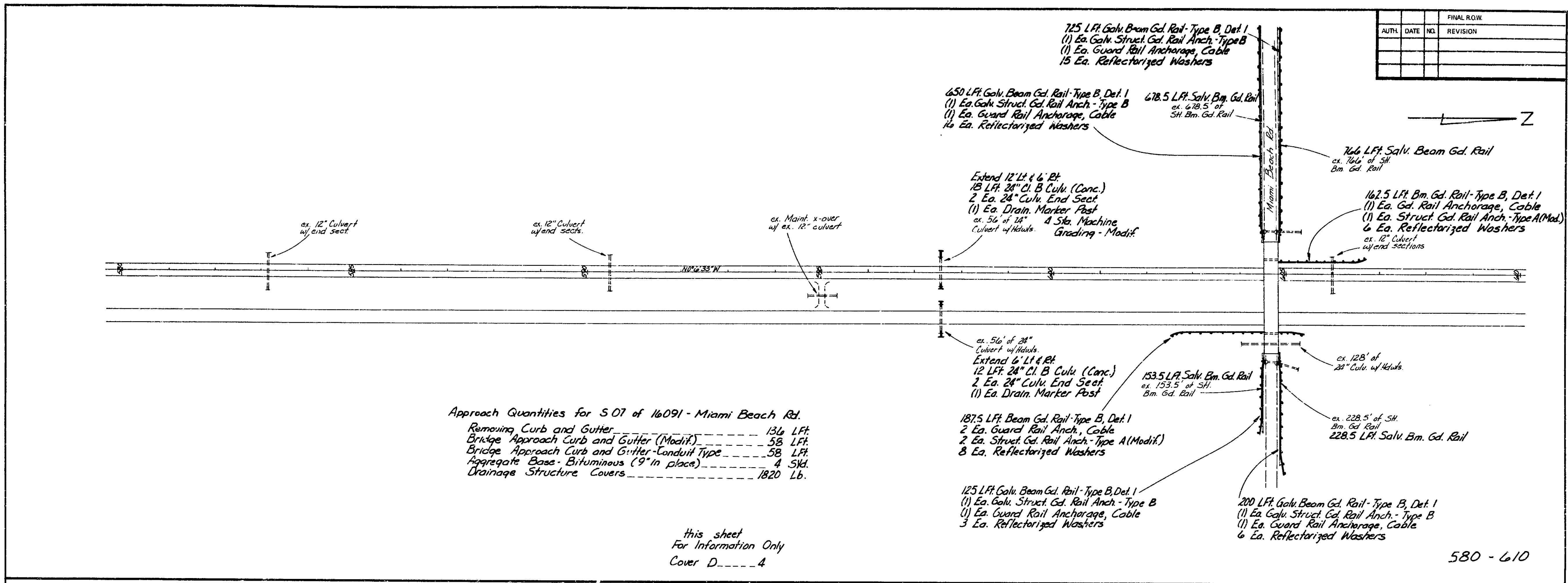
520 - 550

A hand-drawn cross-section diagram of a culvert system. The diagram shows a horizontal line representing the ground surface with vertical dashed lines indicating the culvert walls. Two vertical T-junctions are shown on the left and right walls, each with a vertical pipe segment extending downwards. The left T-junction is labeled 'ex. 12" Culvert w/end sect.' with an arrow. The right T-junction is labeled 'ex. 192' of 30" Culvert w/Hduts.' with an arrow. A vertical line labeled 'NO 33° N' is positioned between the two T-junctions. The entire diagram is drawn on a single sheet of paper with black ink.

550 - 580



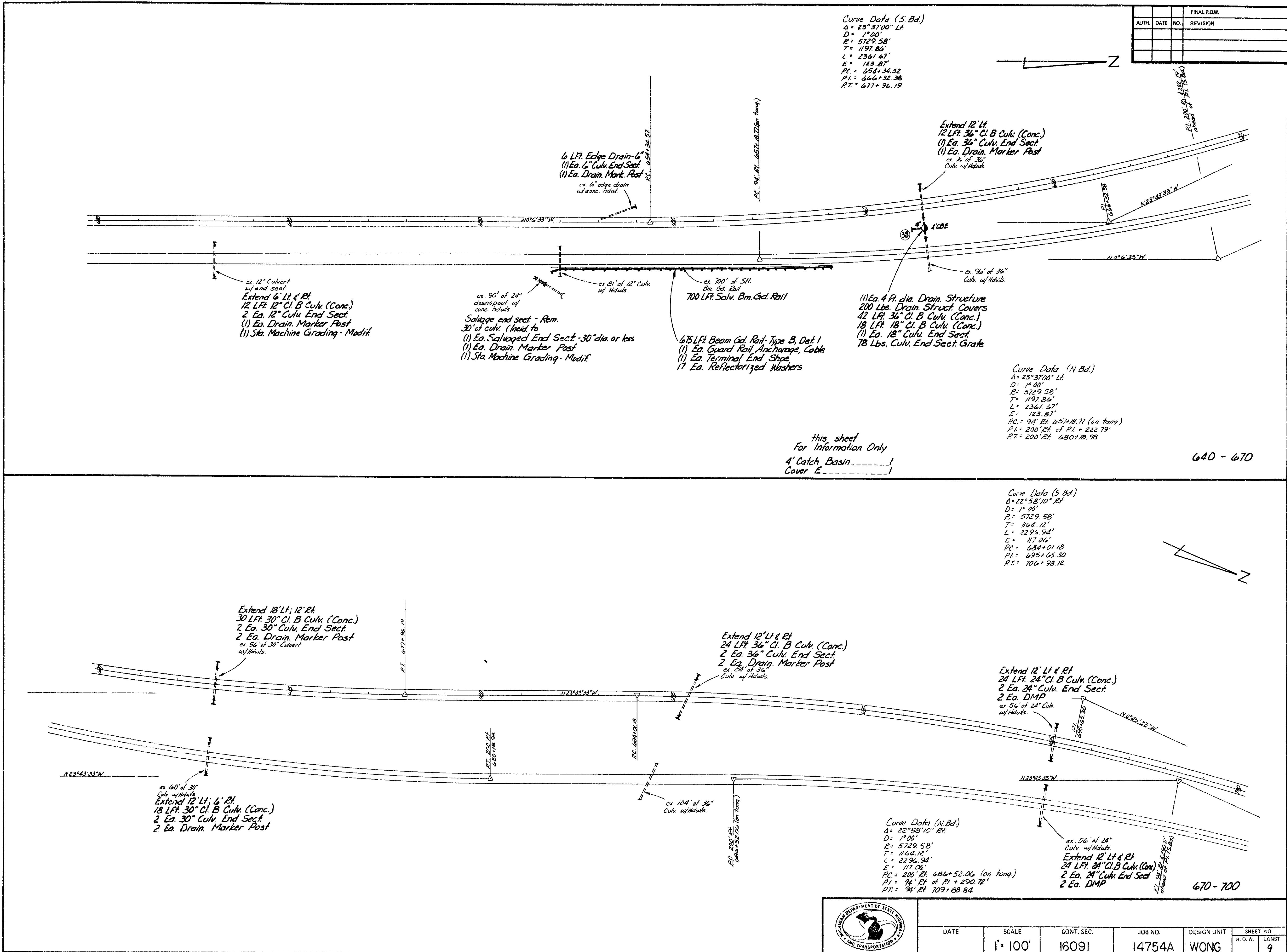
 <p>Michigan Department of State Highways and Transportation</p>					
	DATE	SCALE 1" = 100'	CONT. SEC. 16091	JOB NO. 14754A	DESIGN UNIT WONG



610 - 640

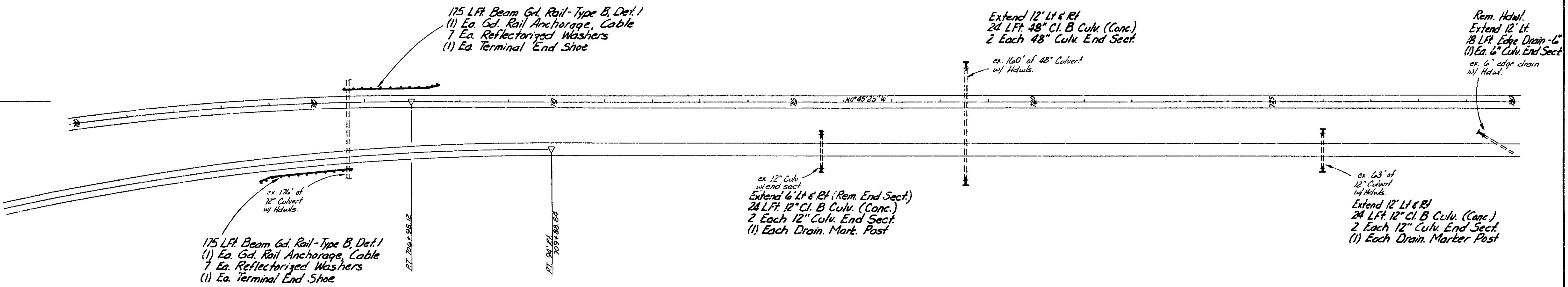


						
	DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.
	1" = 100'	16091	14754A	WONG	R. O. W. CONST. 8	



FINAL R.O.W.			
AUTH.	DATE	NO.	REVISION

—L —Z



700 - 730

Note:

Note. The existing berm on the west side of the southbound roadway from Sta 740 to Sta. 745 ± is a possible borrow source, as well as the existing slope east of the northbound roadway from 730 to 735 ±. See note on sheet #2.

200L
175 LFt. Galv. Beam Cd. Rail - Type B, Det. 1
37.5 LFt. Galv. Curved Beam Cd. Rail - Type B, Det. 1
(1) Ea. Guard Rail Anchorage, Cable
(1) Ea. Buffered End
7 Ea. Reflectorized Washers

37.5 LFt. Galv. Curved Beam Gd. R
(1) Eq. Galv. Struct. Gd. Rail And
(1) Eq. Buffered End
(1) Eq. Reflectorized Washers

37.5 LFt. Galv. Bm. Gd. Rail-Type B, Det. 1
(1) Ea. Gd. Rail Anchorage, Cable
(1) Ea. Buffered End
2 Ea. Reflectarized Washers

62.5 LF. Galv. Beam Gd. Rail - Type B, Det. 1
37.5 LF. Galv. Curved Beam Gd. Rail - Type B, Det.
2 Ea. Buffered End
2 Ea. Reflectorized Washers

37.5 L.Ft. Galv. Curved Beam Gd. Rail - Type B, Det. 1
(1) Ea. Galv. Struct. Gd. Rail Anch. - Type B
(1) Ea. Buffered End
(1) Ea. Reflectarized Washers

Frontage Rd.
ex. 37.5' of S.H. Bm. Gd. Rail
75 LFT. SOLV. Bm. Gd. Rail
ex. 12" Culvert

Ex. 12 Cover
w/ end sect. 8 Eq. Reflectorized Washers

Approx. Sta. 731+00 to 735 NB &
Approx. Sta. 730+00 to 732 SB
6 Sta. Machine Grading - Modif.

732 SB
Grading - Modif.
187.5 LFt. Bm. G
2 Ea. Guard Rail
2 Ea. Str. Gd. Rail
8 Ea. Reflectors

112.5 LFT. Galv. Beam Gd. Rail Type B. Dist 1
(1) Ea. Gd. Rail Anchorage, Casting
(1) Ea. Galv. Struct. Gd. Rail Anch. - Type A
3 Ea. Reflectarized Washers
ex 253.5' of
SH. Bm. Gd. Rail
253.5 LFT. SH.
Bm. Gd. Rail

112.5 LFt. Galv. Beam Gd. Rail - Type B, Det. 1
(1) Ea. Gd. Rail Anch., Cable
(1) Ea. Galv. Struct. Gd. Rail Anch. - Type
5 Ea. Reflecto-rized Washers

278.5 LFT. Salv. Beam Gd. 1
ext. 278.5' of SH. Bm. Gd. Rail

Approach Quantities for S 08 of 16091 - Indian Trails Rd.

Removing Curb and Gutter	141 LFT.
Bridge Approach Curb and Gutter (Modif.)	60 LFT.
Bridge Approach Curb and Gutter - Conduit Type	60 LFT.
Aggregate Base - Bituminous (9" in place)	4 SxL
Drainage Structure Covers	1820 Lb.

For Information Only

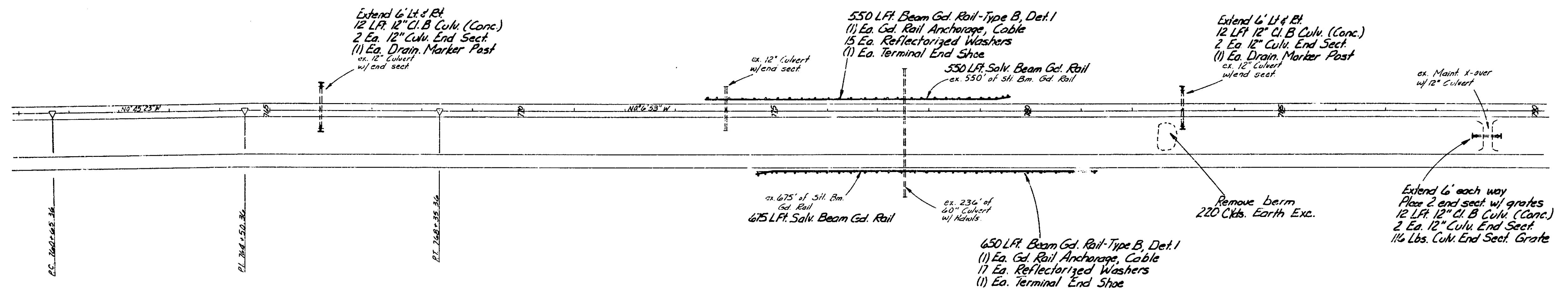
730 - 760



	DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
		1" = 100'	16091	14754A	WONG	R. O. W.	CONST.

FINAL R.O.W.			
AUTH.	DATE	NO.	REVISION

L Z



760 - 790

Bridge Approach Guard Rail Quantities					
	NE Quad.	NW Quad.	SW Quad.	SE Quad.	Total
Galv. Beam Guard Rail - Type B, Det. 1	112.5 LFT	162.5 LFT	250 LFT	112.5 LFT	637.5 LFT
Galv. Curved Beam Gd. Rail - Type B, Det. 1	-	-	112.5 LFT	-	112.5 LFT
Guard Rail Anchorage, Cable	1 Ea.	1 Ea.	-	1 Ea.	3 Each
Galv. Struct. Gd. Rail Anchorage, Type B	1 Ea.	1 Ea.	1 Ea.	1 Ea.	4 Each
Reinforced Washers	4 Ea.	5 Ea.	7 Ea.	4 Ea.	20 Each
Terminal End Shoes	-	-	1 Ea.	-	1 Each

Approach Quantities for S09 of 16091 (Riggsville Rd.)

Removing Curb and Gutter	138 LFt.
Bridge Approach Curb and Gutter (Modified)	61 LFt.
Bridge Apr. Curb and Gutter - Conduit Type	400 LFt.
Aggregate Base - Bituminous (9" in place)	4 SKd.
Drainage Structure Covers	1820 Lb.
Adjusting Drain. Struct. Covers	4 Eq.

ex. 12" w/end

Note: Earth Excavation and Embankment (CIP) quantities on this sheet are for flattening existing guard rail fills to 1 on 4 slopes, approximately as indicated by slope stake lines.

this sheet
For Information Only
Cover D_____4

Note: Extend ex. 30" Culv. @ Frontage Rd. 12' approx. Sta. 38+50 Riggsville Rd.
12 LFT. 30" Cl. B Culv. (Conc.)
(1) Ea. 30" Culv. End Sect.
(1) Ea. Drain. Marker Post

Extend 12' Rt; 6' Lt.
18 Lft. 30" Cl. B Culv. (Conc.)
2 Eq. 30" Culv. End Sect.
2 Eq. Drain. Marker Post
ex. 42 of 30"
Culvert w/ 14-lvls

d) 158 LFT.
e) 61 LFT.
--- 60 LFT.
--- 4 SFD.
--- 1820 Lb.
--- 4 E3.

Site Plan and Construction Details:

Top Left: Note: Extend ex. 30" Culv. @ Frontage Rd. 12' Rt. approx. Sta. 38+50 Riggsville Rd.

Top Center: 500 LFT Culv. Bm. Gd. Rail Type B, Det. 1
2 Ea. Gd. Rail Anch., Cable
18 Ea. Reflect. Washers

Top Right: ex. 900' of St. Bm. Gd. Rail
900 LFT Salv. Bm. Gd. Rail
1396 C'lds. Embank. (CIP)

Middle Left: ex. 1430' of St. Bm. Gd. Rail
1430 LFT Salv. Beam Gd. Rail

Middle Center: 162 C'lds. Earth Exc.
410 C'lds. Embank. (CIP)

Middle Right: ex. 1470' of St. Bm. Gd. Rail
1470 LFT Salv. Beam Gd. Rail

Bottom Left: ex. 12" Culvert w/ snd sections

Bottom Center: 162.5 LFT Bm. Gd. Rail - Type B, Det. 1
(1) Ea. Gd. Rail Anch., Cable
(1) Ea. Struct. Gd. Rail Anch. - Type A (Mod.) ex. 48' of 12" culvert w/ Hdwls.
6 Ea. Reflect. Washers

Bottom Right: Sta. 816+71.04 SBd I-75 =
Sta. 49+32.01 Riggsville Rd.

Bottom Left Labels: ex. 850' of St. Bm. Gd. Rail
850 LFT Salvaged Beam Gd. Rail

Bottom Center Labels: 850 LFT Salv. Bm. Gd. Rail
ex. 850' of St. Bm. Gd. Rail

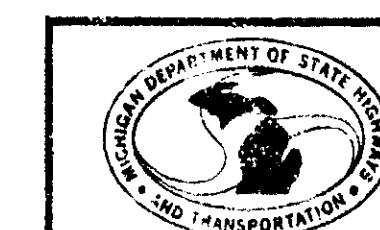
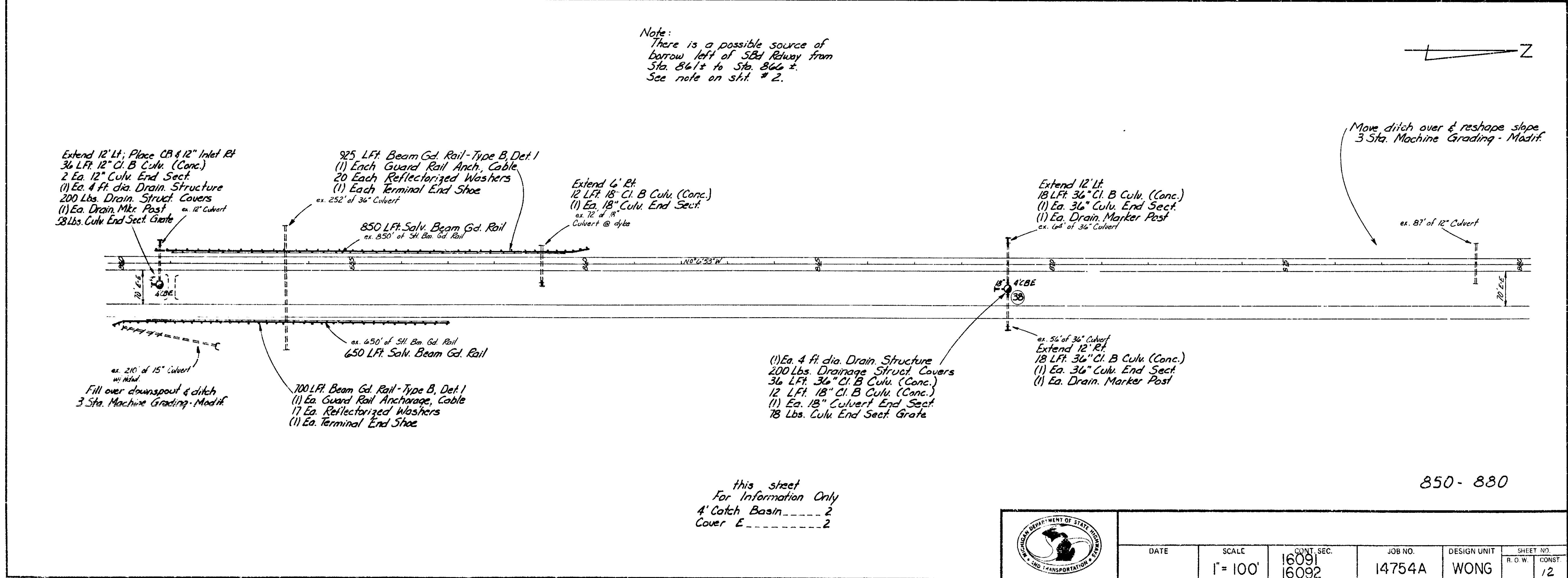
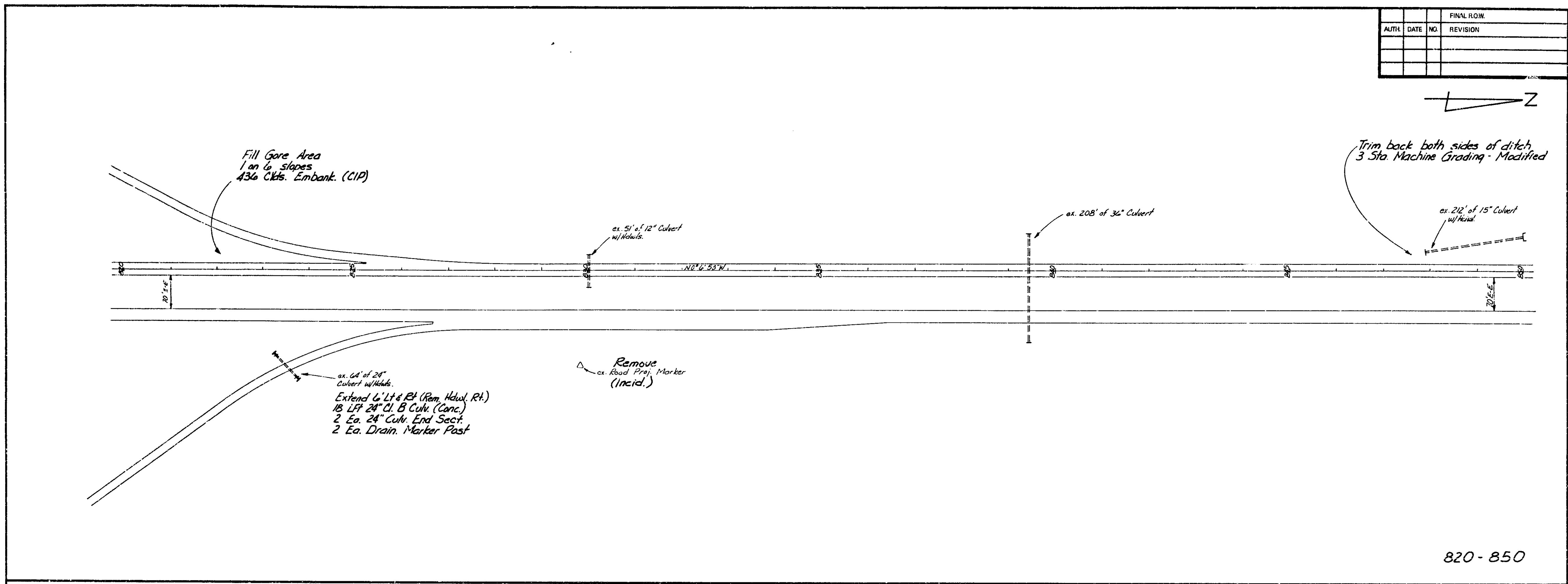
Bottom Right Labels: ex. 51' of 12" Culvert w/ Hdwls.
ex. 48' of 12" Culvert w/ Hdwls.
Fill - Ion 4
298 C'lds. Earth Exc.
1745 C'lds. Emb. (CIP)
ex. 128' of 30" Culvert w/ Hdwls.
ex. 112.5' of St. Bm. Gd. Rail
225 LFT Salvaged Beam Gd. Rail

Bottom Center: 790 - 820

790 - 820



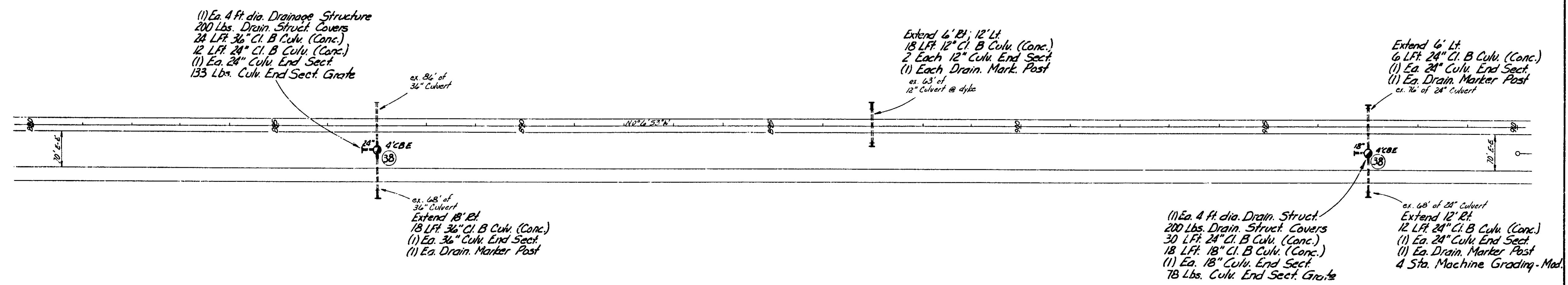
	DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT	SHEET NO.	
		1" = 100'	16091	14754A	WONG	R. O. W.	CONST.



					
	DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT
	1" = 100'	16091 16092	14754A	WONG	R. O. W. CONST. 12

		FINAL R.O.W.
AUTH.	DATE	NO. REVISION

Z

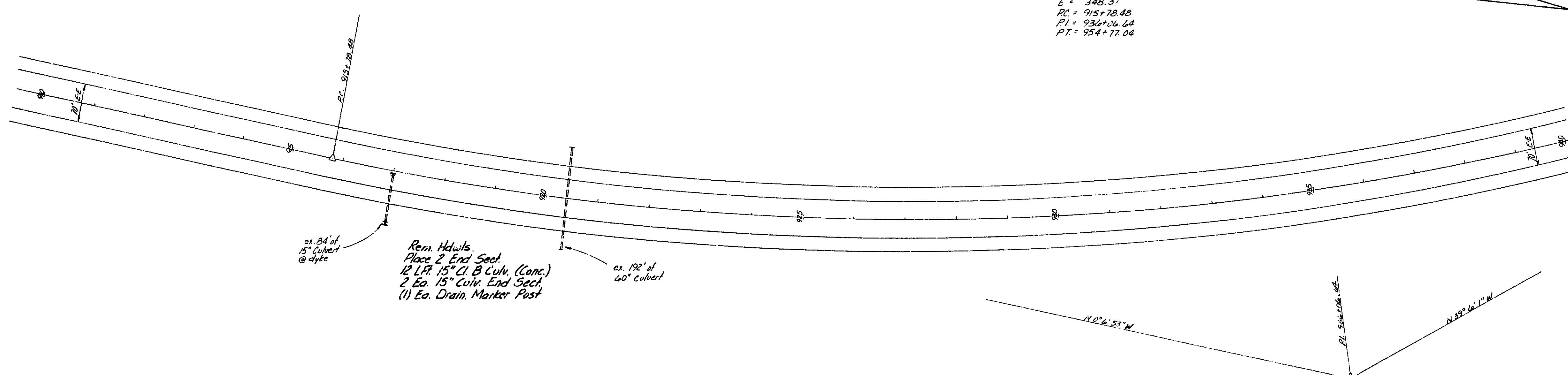


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4' Catch Basin --- 2
Cover E --- 2

880 - 910

Curve Data
A = 38° 59' 08" Lt
D = 1' 00"
R = 5729.58'
T = 2028.16'
L = 3898.56'
E = 348.57'
PC = 915+78.48
PL = 936+04.64
PT = 954+77.04

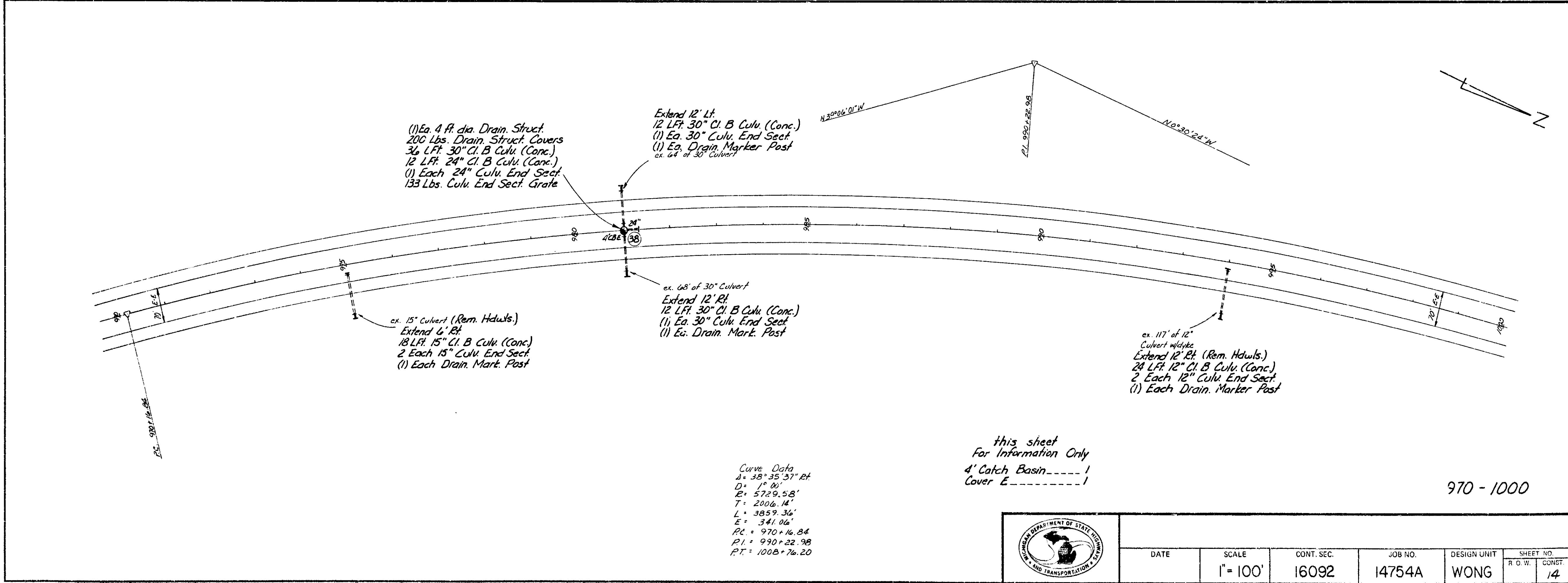
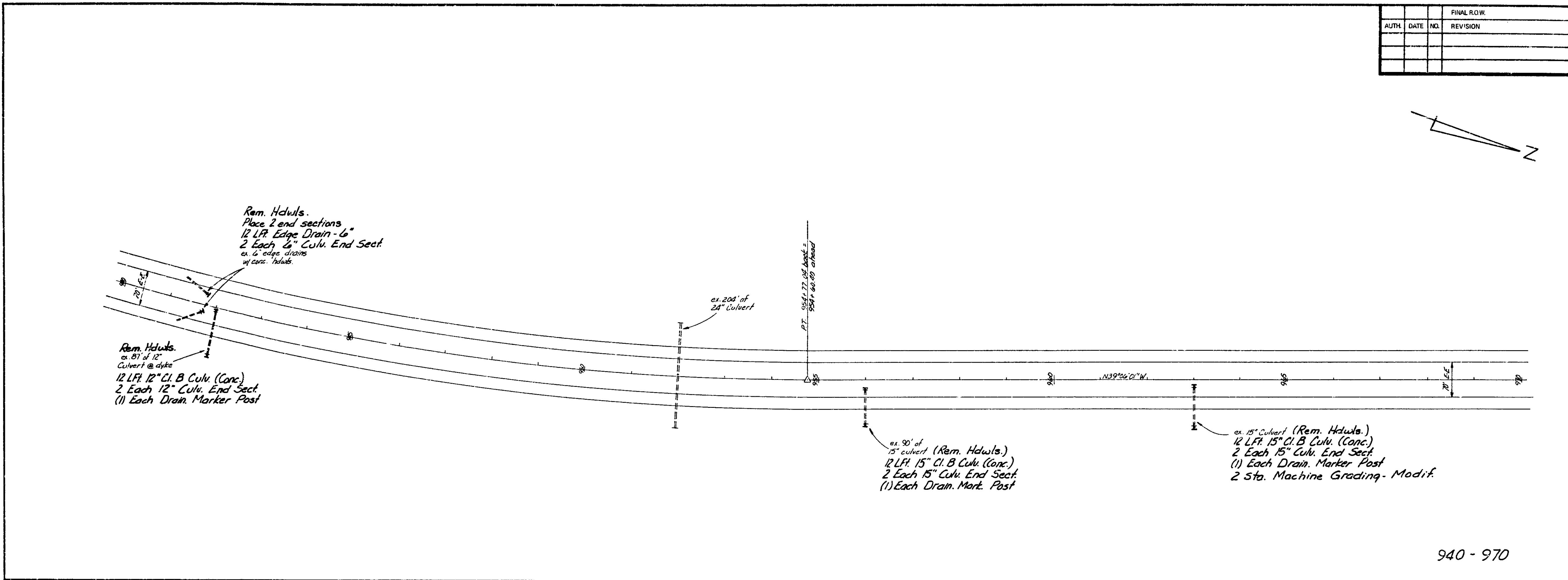
Z



910 - 940

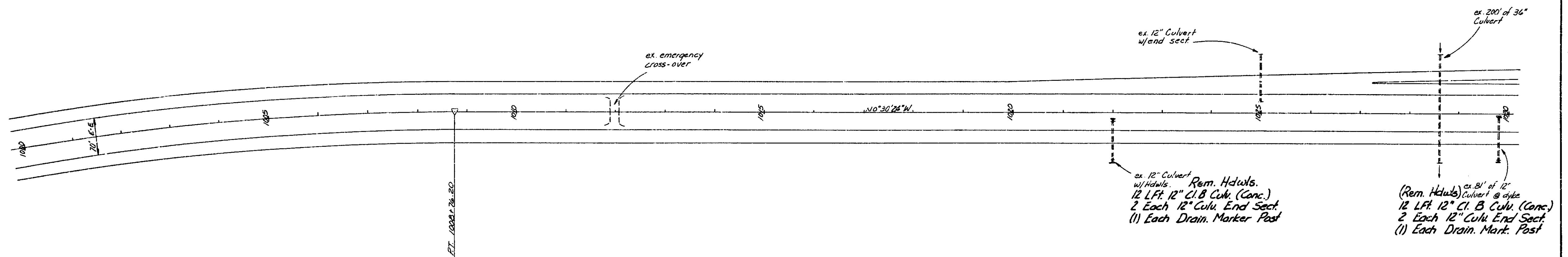


DATE	SCALE 1' = 100'	CONT. SEC. 16092	JOB NO. 14754A	DESIGN UNIT WONG	SHEET NO. 13

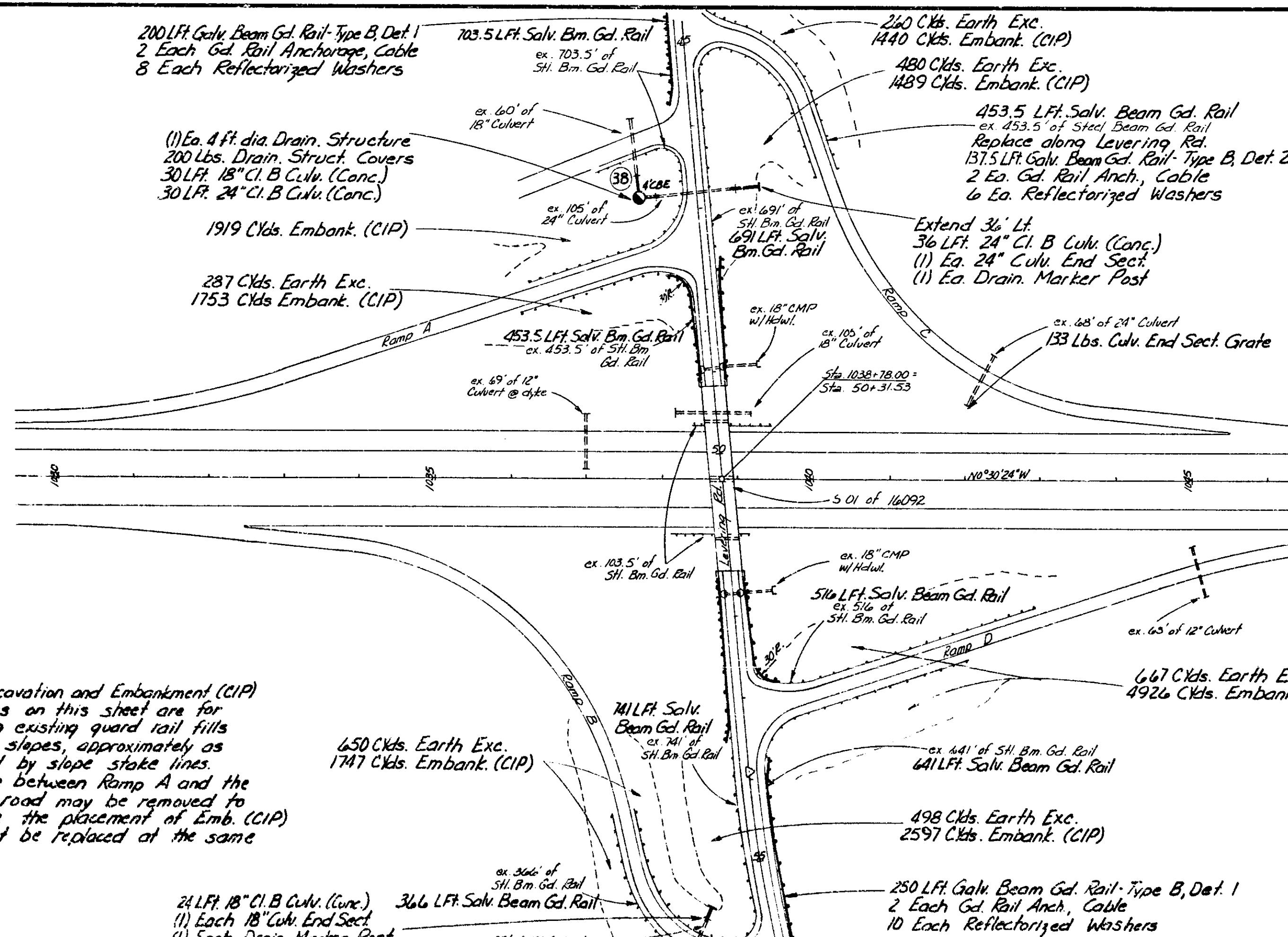


FINAL R.O.W.			
AUTH.	DATE	NO.	REVISION

— + — Z



1000 - 1030



Bridge Approach Gd. Rail Quantities

	NE Quad.	SW Quad.	SW Quad.	SE Quad.	Total
Galv. Beam Gd. Rail - Type B, Det. 1	100 LFT.	112.5 LFT.	100 LFT.	162.5 LFT.	475 LFT.
Galv. Curved Beam Gd. Rail - Type B, Det. 1	50 LFT.		50 LFT.		100 LFT.
Galv. Struct. Gd. Rail Anch. - Type B	1 Ea.	1 Ea.	1 Ea.	1 Ea.	4 Ea.
Guard Rail Anchorage, Cable		1 Ea.		1 Ea.	2 Ea.
Reflectorized Washers	4 Ea.	4 Ea.	4 Ea.	4 Ea.	16 Ea.
Terminal End Shoes	1 Ea.		1 Ea.		2 Ea.

Approach Quantities - 501 of 14092 (Levering Rd.)

Approach Quantities - 30' or 100' (Leaving Net)	
Removing Curb and Gutter	137 LFT.
Bridge Appr. Curb and Gutter (Modif.)	35 LFT.
Bridge Appr. Curb and Gutter - Conduit Type	36 LFT.
Aggregate Base - Bituminous (9" in place)	14 SYD.
Drainage Structure Covers	1820 Lb.
Adjusting Drain. Struct. Covers	4 EQ.

1030 - 10/60

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	DATE	SCALE	CONT. SEC.	JOB NO.	DESIGN UNIT
	1" = 100'	16092	14754A	WONG	R. O. W. CONST. 15

Any guard rail that is to be removed shall be salvaged and stockpiled at locations on the project directed by the Engineer and shall become the property of the M.D.S.H.T.

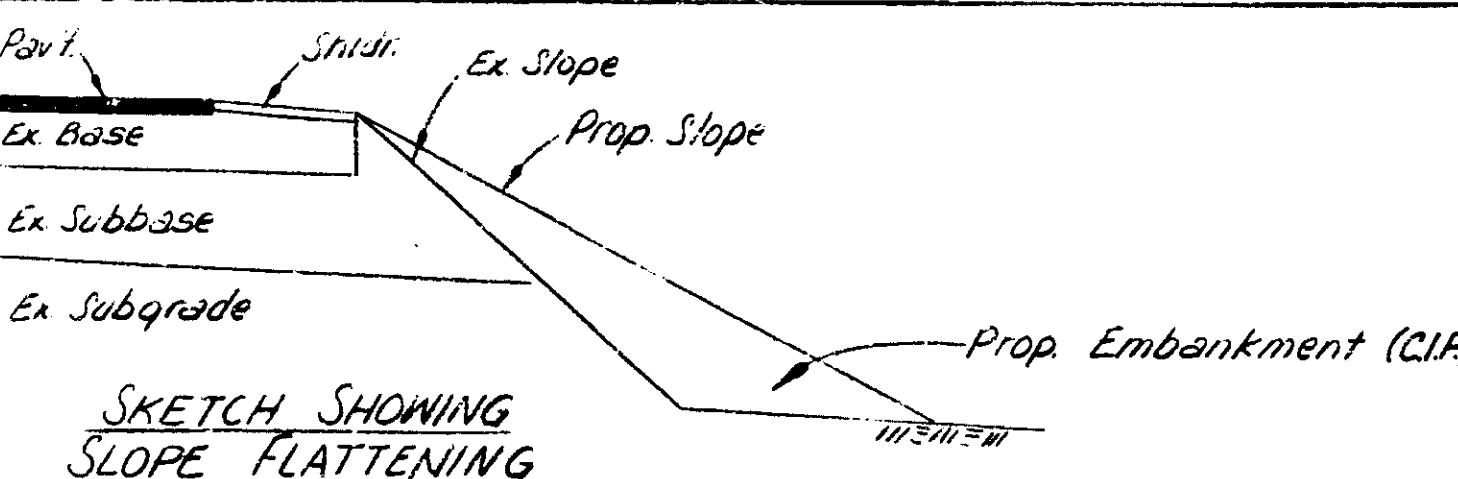
When removing "Guard Rail Anchorage-Single", the removal of the concrete footing shall be incidental to "Rem Beam Guard Rail".

Dimensions on the plan sheets shown (OD) indicate distance from edge of metal. All guard rail on this project shall have wood posts.

It is the plan intent to leave the existing headwalls on culvert extensions, except where removal of existing headwalls is called for on plans. Existing headwalls which are not to be removed are to be covered with embankment. Embankment to reshape the slope will be paid for at the contract unit price per cubic yard (C.I.P.).

Where removal of existing headwall is called for on plans, a 6-foot section of concrete culvert is included in the plan quantity to replace the broken section. Removal of the headwall will not be paid for separately but shall be incidental to the culvert extension.

A quantity of "Class C Fudding" and "Embankment (C.I.P.)" for culvert extensions and for flattening slopes at median lines and cross-overs is included in the miscellaneous estimate and plan sheet quantities. These items shall be placed immediately after grading operations. Soil shall be placed in the area immediately around the end sections and stone will be placed at remainder of the area.



SKETCH SHOWING
SLOPE FLATTENING

Ex. Hwl & Dike

Normal ditch flow line

Prop. End Section

1 on 10

1

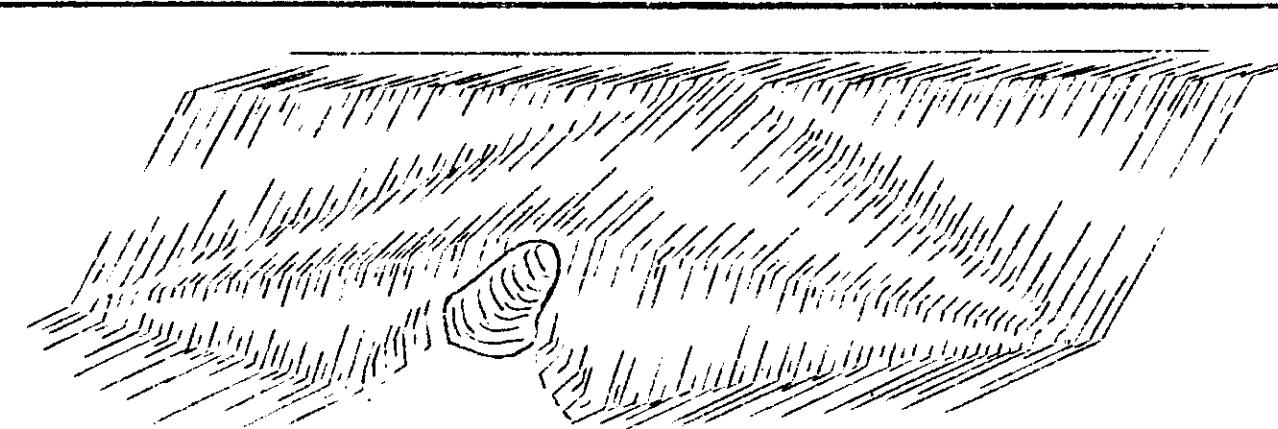
Shoulder

1 on 10

Height equal to diameter of culvert

DETAIL FOR DIKES
IN DITCHES

The slopes on median cross overs shall also be flattened to 1 on 10. Embankment quantities are included in the quantities for entire project on sheet #.



CULVERT EXTENSIONS

When the extension is beyond the slope, additional embankment shall be placed as shown, with a maximum slope of 1 or 10.

Notes

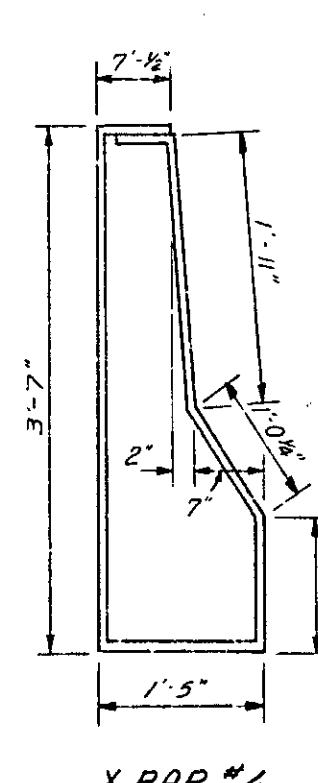
All bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications. Tolerances in cutting and bending bars are as established in Manual of Standard Practice of the Concrete Reinforcing Steel Institute.

and Detailing Manual of the American Concrete Institute.
For Bevel & Molding details see Bridge Plans Steel Reinforcement
for Concrete Barrier - Special shall Conform to Section 8.05.03 Bar
Reinforcement for Structures of Standard Specifications for Highway

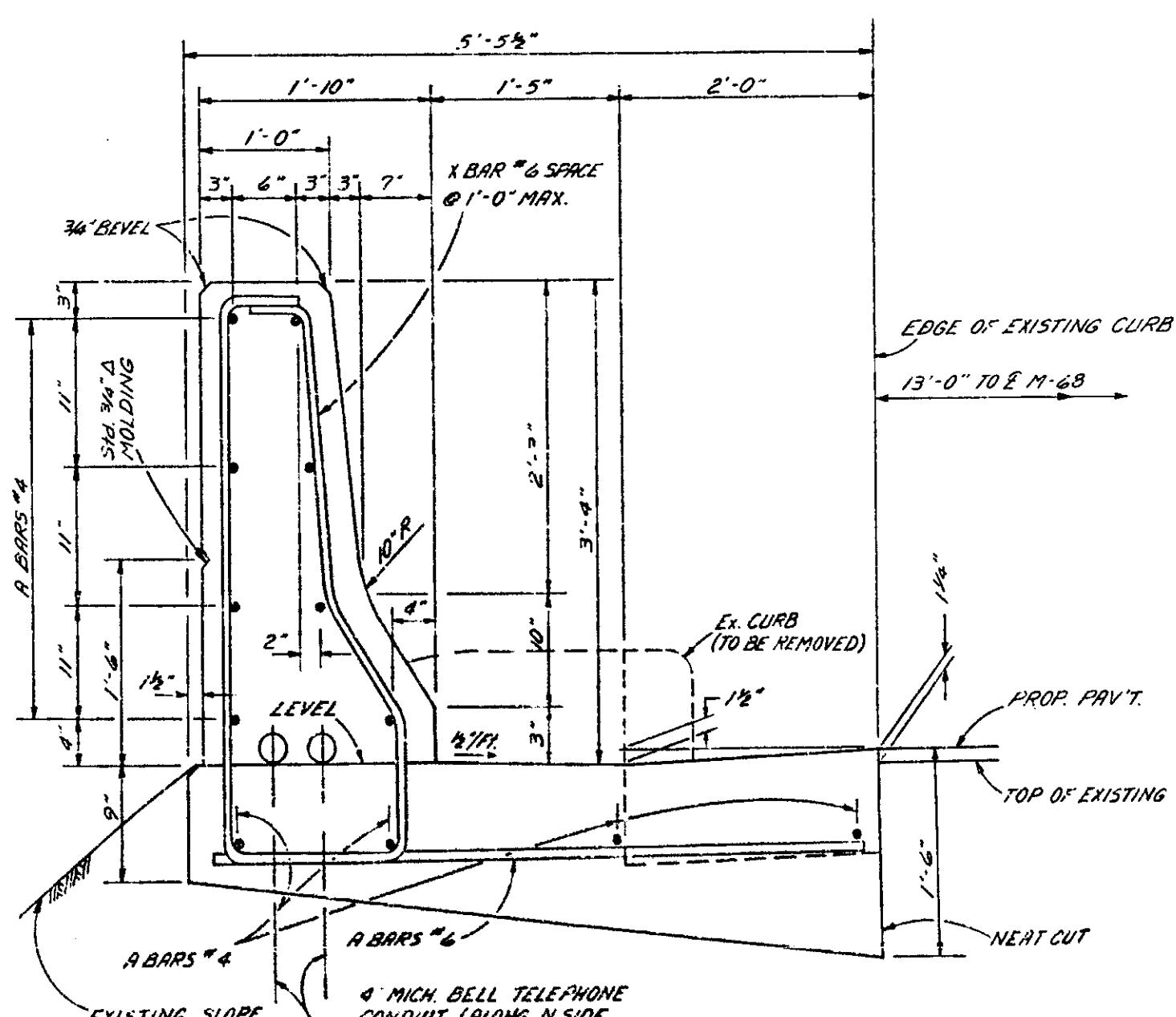
Construction.

4" Ø Telephone Ducts and Expansion Couplings will be furnished by Michigan Bell Telephone Co. and installed by the contractor.

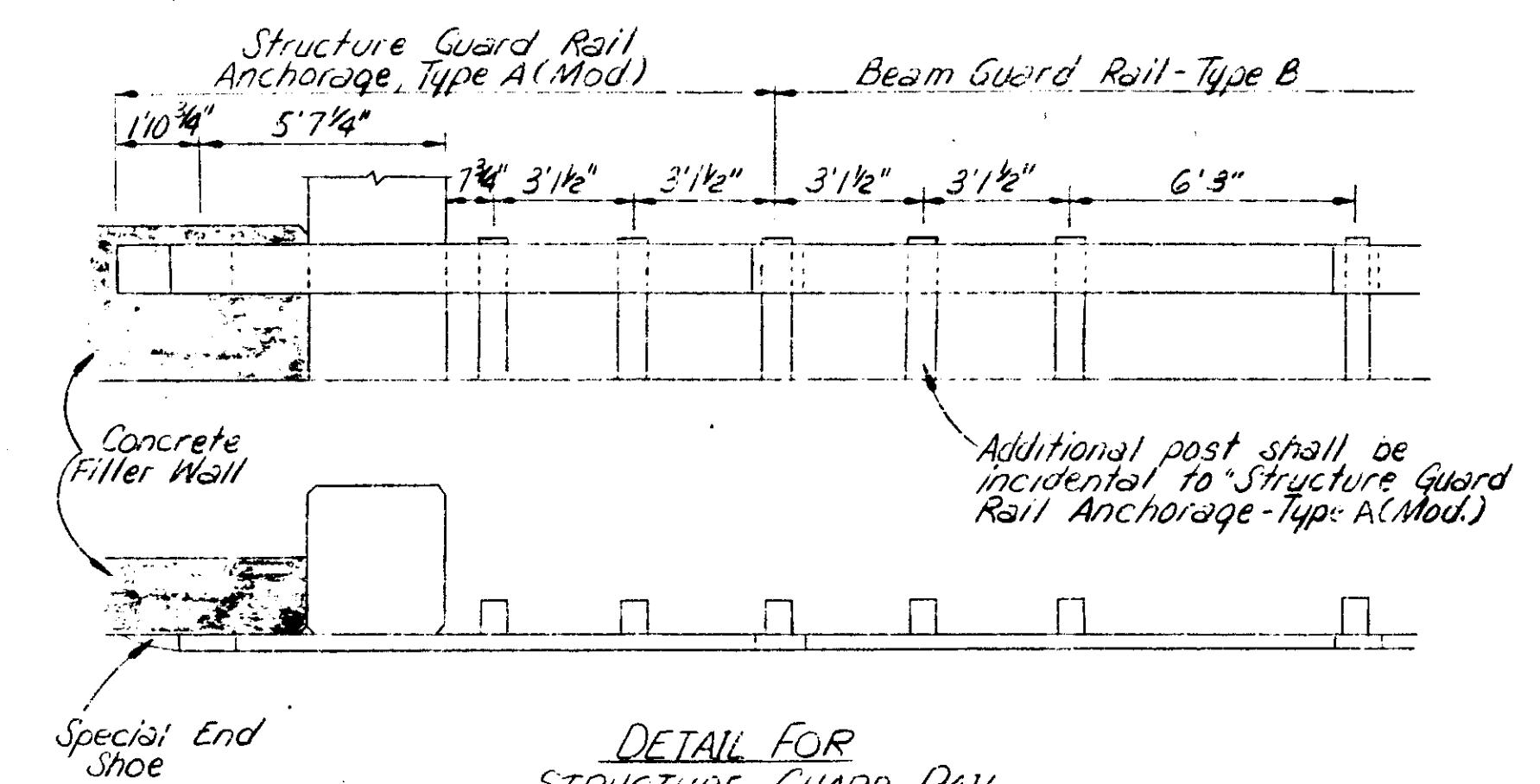
The Michigan Bell Cable in the shoulder will be temporarily relocated by others prior to this contract.



CONCRETE BARRIER - SPECIAL
To be used between 501 & 502 of 160%

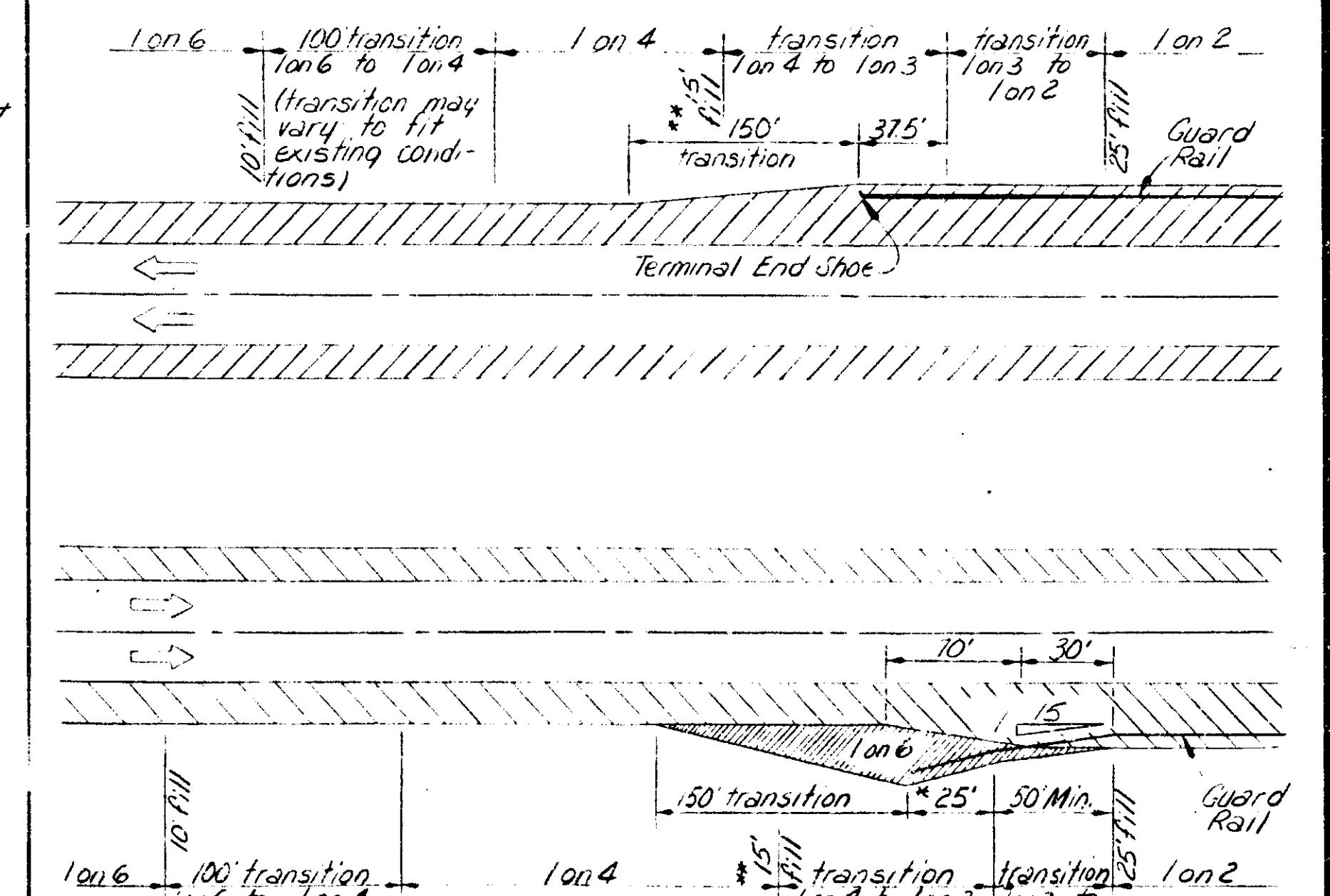


F. N. A. REG. NO.	STATE	PERIOD	R. S. N.	SHEET NO.	TOTAL PAGES
5	MICH		12		
ROUTE	COUNTY	STATE	ST. NO.		
I 75	Cheboygan	Is	16091	Is	1002

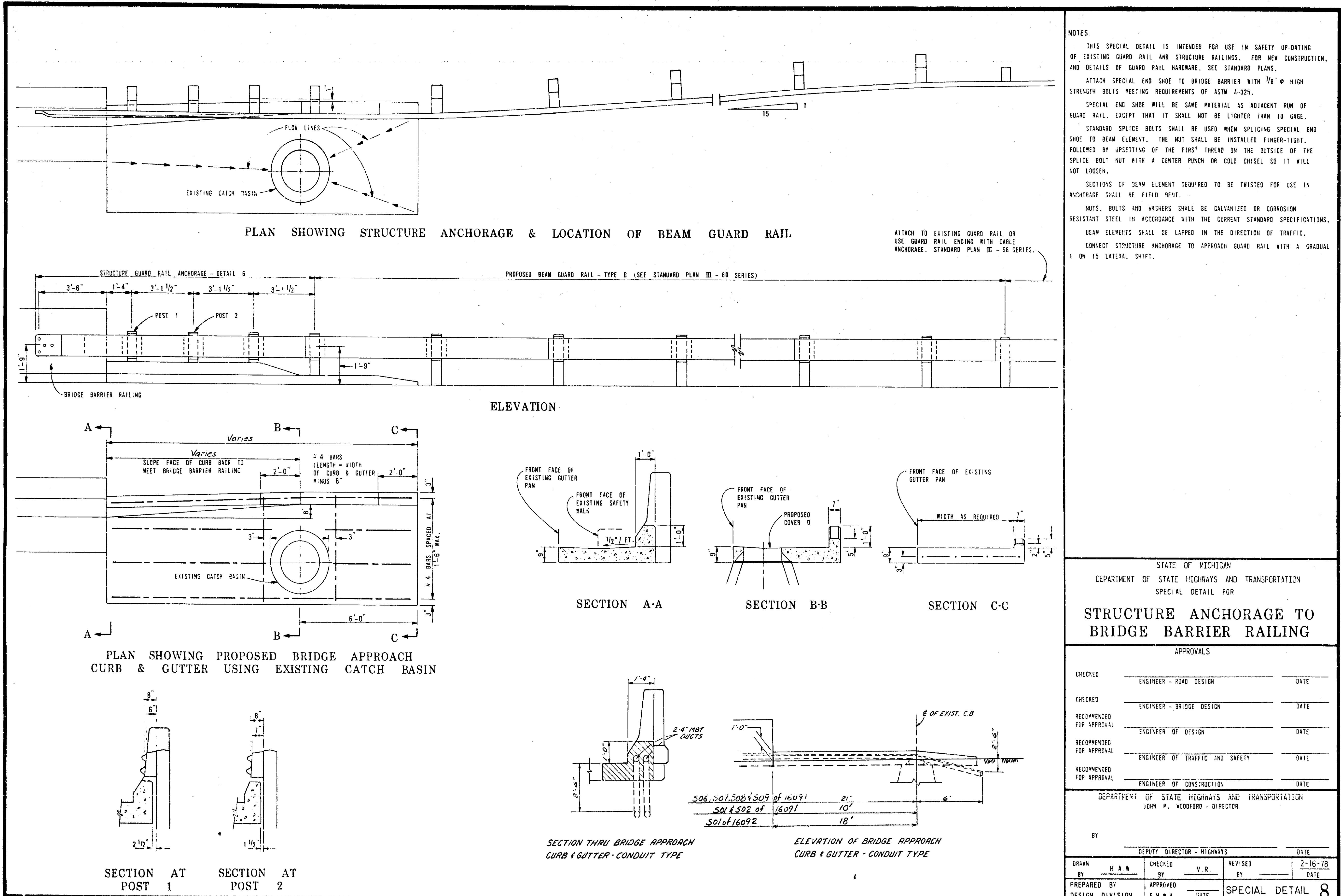


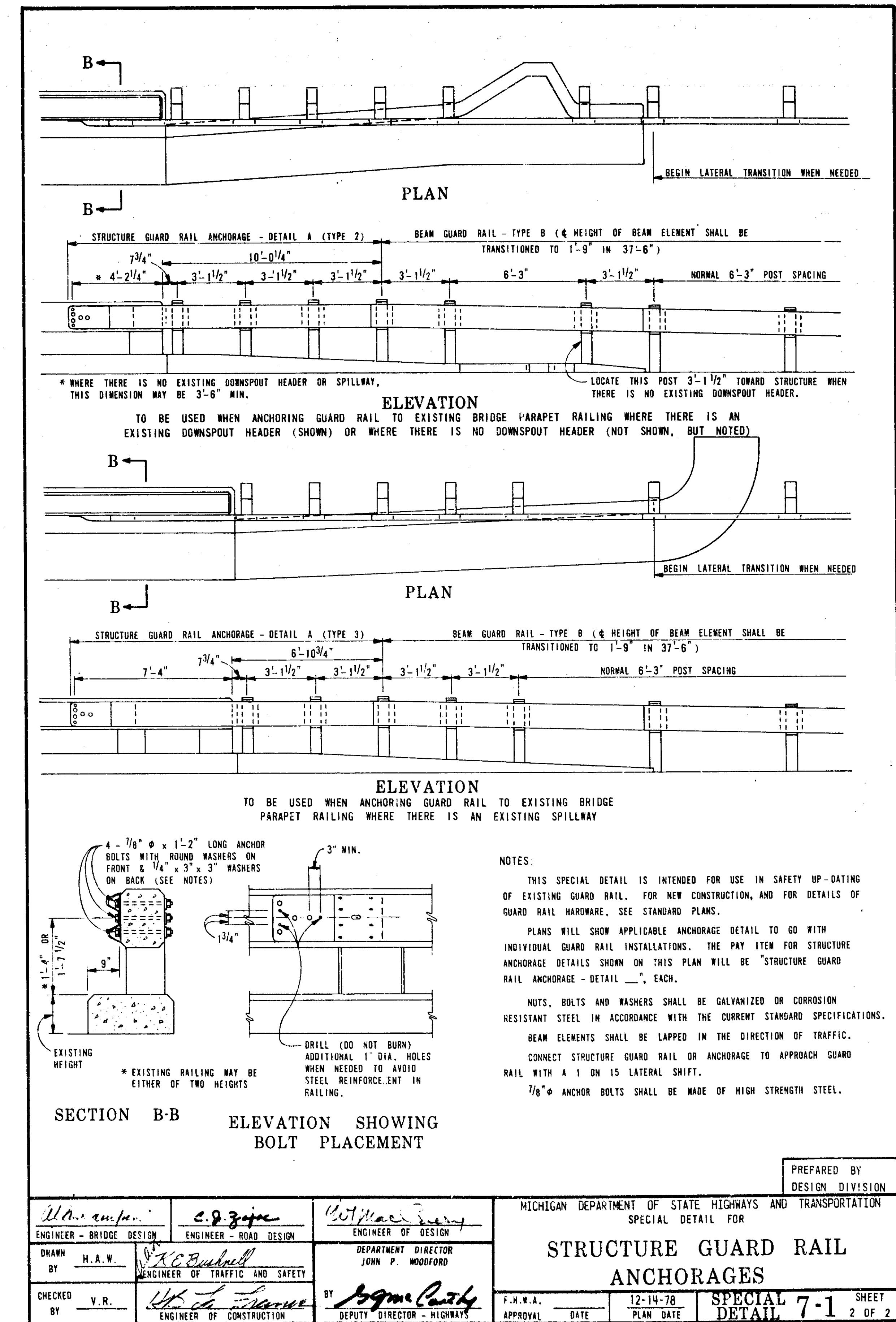
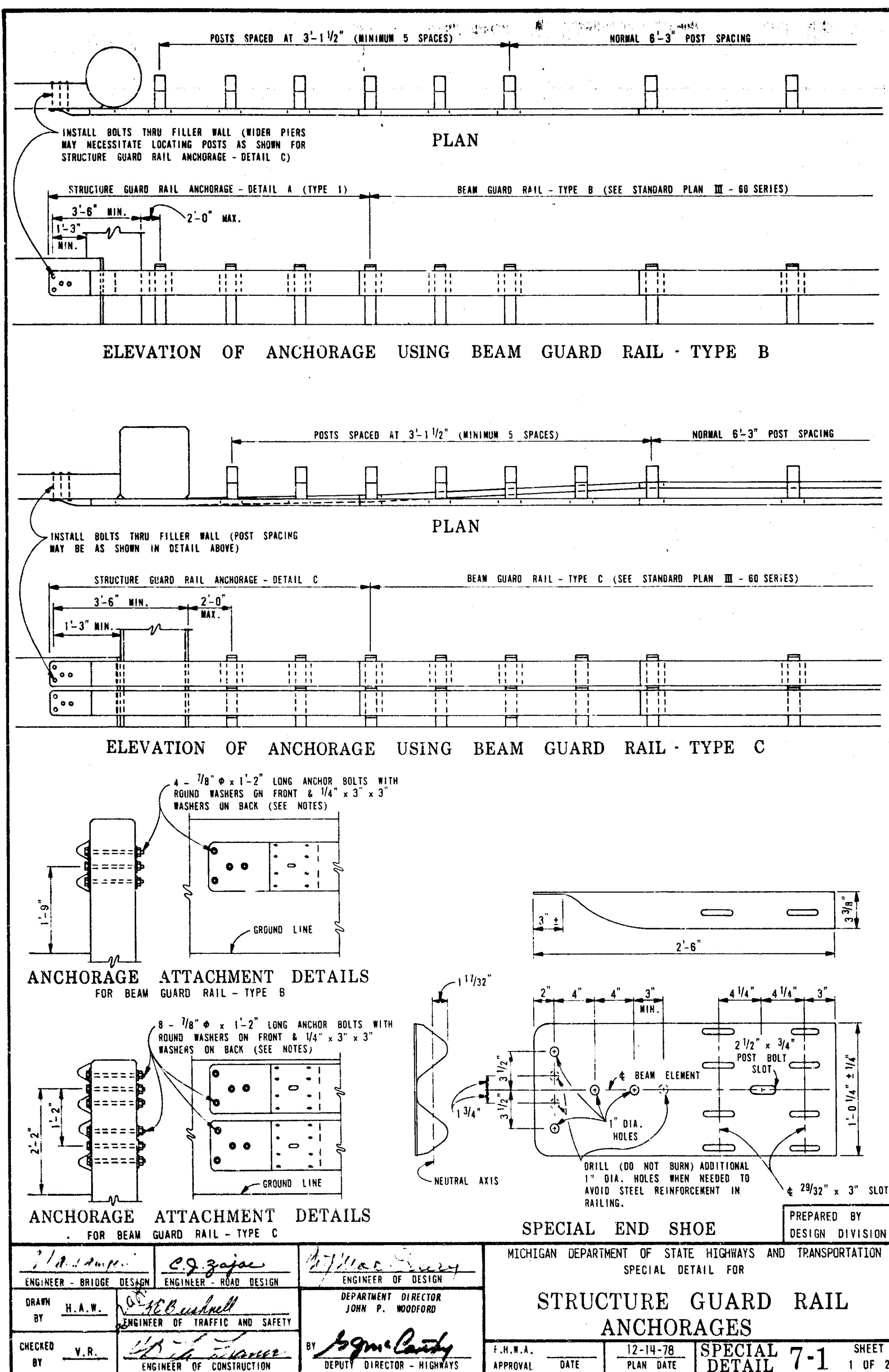
DETAIL FOR
STRUCTURE GUARD RAIL
ANCHORAGE TYPE A (MOD)

For details of anchorage attachment and special end shoe, see sheet #19



SKETCH FOR
GUARD RAIL EMBANKMENT TRANSITIONS





014754C 11-12-1968 ROAD TOTAL

SUMMARY OF QUANTITIES

ITEM DESCRIPTION	ITEM CODE	UNIT	PROJECT TOTAL	ITEM DESCRIPTION	ITEM CODE	UNIT	AS CONST PROJ TOTAL
REMOVING CURB AND GUTTER	2070006	LFT	1178	REMOVING PAVEMENT MARKINGS	6310006	LFT	0 / 1003
EARTH EXCAVATION	2080001	CYD	4985	TEMP. PAINT MARKING 12 DASHED	6310007	STA	0 / 1003
EMBANKMENT (CIP)	2080008	CYO	37631	TEMP. PAINT MARKING SOLID	6310009	STA	0 / 1003
MACHINE GRADING-MODIFIED	2087000	STA	41	LIGHTED ARROW TYPE A FURNISHED	6310011	EACH	1 / 1003
HAY OR STRAW BALES	2130003	EACH	100	LIGHTED ARROW TYPE A OPERATED	6310012	EACH	1 / 1003
AGGREGATE BASE - BITUMINOUS (9" IN PLACE)	3010011	SYD	39	BARRICADE TYPE A LIGHTED FURN.	6310021	EACH	16 / 1003
FILLER WALL CONCRETE, GRADE 35	5030006	CYO	51	BARRICADE TYPE A LIGHTED OPER.	6310022	EACH	16 / 1003
STEEL REINFORCEMENT	5030030	LBS	2658	SIGN TYPE IIR TEMPORARY	6310036	SFT	560 / 1003
3/4" EXPANSION ANCHORED BOLTS	5030141	EACH	320	SIGN TYPE IIR TEMPORARY	6310037	SFT	0 / 1003
BR APPR CURB AND GUTTER (MODIFIED)	5097000	LFT	568	3# STEEL POST TEMPORARY	6310044	LFT	1046 / 1003
BR APPR CURB AND GUTTER CONDUIT TYP	5097001	LFT	312	MINOR TRAFFIC DEVICES	6310054	L SUM	1.0 / 1003
12" CLASS B CULVERT (CONCRETE)	5110133	LFT	228	FLAG CONTROL	6310055	L SUM	1.0 / 1003
15" CLASS B CULVERT (CONCRETE)	5110194	LFT	54				
18" CLASS B CULVERT (CONCRETE)	5110135	LFT	216				
24" CLASS B CULVERT (CONCRETE)	5110137	LFT	408				
30" CLASS B CULVERT (CONCRETE)	5110139	LFT	156				
36" CLASS B CULVERT (CONCRETE)	5110140	LFT	300				
48" CLASS B CULVERT (CONCRETE)	5110142	LFT	36				
CULVERT END SECTION ORATE	5111006	LBS	1151				
6" CULVERT END SECTIONS	5111020	EACH	4				
12" CULVERT END SECTIONS	5111021	EACH	26				
15" CULVERT END SECTIONS	5111022	EACH	8				
18" CULVERT END SECTIONS	5111023	EACH	14				
24" CULVERT END SECTIONS	5111025	EACH	33				
30" CULVERT END SECTIONS	5111027	EACH	11				
36" CULVERT END SECTIONS	5111028	EACH	11				
48" CULVERT END SECTIONS	5111030	EACH	3				
SALVAGED END SECTION							
30" DIAMETER OR LESS	5111038	EACH	1				
DRAINAGE MARKER POST	5111051	EACH	75				
4" DIAMETER DRAINAGE STRUCTURE	5140030	EACH	10				
DRAINAGE STRUCTURE COVERS	5140042	LBS	13830				
ADJUSTING DRAINAGE STRUCTURE COVERS	5140045	EACH	14				
4 FT CATCH BASIN	5148000	EACH	10				
COVER D	5148001	EACH	26				
COVER E	5148002	EACH	10				
EDGE DRAINS 6"	6020021	LFT	36				
CONCRETE BARRIER-SPECIAL	6127000	LFT	118				
GALVANIZED BEAM GUARD RAIL, TYPE B DETAIL 1	6130002	LFT	11476				
GALVANIZED STRUCTURE GUARD RAIL							
ANCHORAGE, TYPE B	6130010	EACH	24				
GALVANIZED CURVED BEAM							
GUARD RAIL, TYPE B DETAIL 1	6130019	LFT	413				
BEAM GUARD RAIL, TYPE B DETAIL 1	6130031	LFT	7876				
STRUCTURE GUARD RAIL							
ANCHORAGE, TYPE B	6130046	EACH	5				
GUARD RAIL ANCHORAGE, CABLE	6130066	EACH	65				
SALVAGED BEAM GUARD RAIL	6130073	LFT	25743				
REFLECTORIZED WASHERS	6130080	EACH	561				
TERMINAL END SHOES	6130086	EACH	17				
BUFFERED END	6130088	EACH	6				
30" STR RD RAIL ANCH TYPE A MODIF	6137000	EA	8				
STRUCT RD RAIL ANCH TYPE A MODIFIED	6137001	EA	11				
TEMPORARY FENCE	6210004	LFT	200				
MOBILIZATION	6230001	L SUM	1				
CLASS B SODDING	6510002	SYD	5859				
WATER	6510003	UNIT	15				
ROADSIDE SEEDING	6520001	LBS	1017				
CEREAL RYE SEEDING	6520003	LBS	730				
CHEMICAL FERTILIZER NUTRIENT	6520004	LBS	2361				
TOPSOIL SURFACE, 3"	6530004	SYD	49290				
MULCH	6540001	TON	37				
ANCHORING MULCH	6540002	ACRE	12				
ON THE JOB TRAINING	6920000	EACH	2				
EXTRAS							
12" CLASS B CULVERT END SECTION SPECIAL	9007000	LFT					
24" CLASS B CULVERT END SECTION SPECIAL	9007001	LFT					
48" CLASS B CULVERT END SECTION SPECIAL	9007002	LFT					
24 CULVERT END SECTION SPECIAL	9007003	EACH					
30 CULVERT END SECTION SPECIAL	9007004	EACH					
36" CULVERT END SECTION SPECIAL	9007005	EACH					
48" CULVERT END SECTION SPECIAL	9007006	EACH					
SIGN POST (TEMP. SPECIAL)	9007010	LFT					
PLAN RIP RAP	9007011	SYD					

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